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THESIS

MASS VERTICAL ENVELOPMENT (AIRBORNE) OPERATIONS: A CRITICAL CAPABILITY IN THE ARMY AFTER NEXT?

by

Paul N. Nobbe, Jr.

June 2002

Thesis Advisor:	David C. Tucker
Second Reader:	John J. Arquilla

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REPORT DOCUMENTATION PAGE			Form Approved OMB No. 0704-0188
Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instruction, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188) Washington DC 20503.			
1. AGENCY USE ONLY ***(Leave blank)***	**2. REPORT DATE** June 2002	**3. REPORT TYPE AND DATES COVERED** Master's Thesis	
4. TITLE AND SUBTITLE: Mass Vertical Envelopment (Airborne) Operations: A Critical Capability in the Army After Next?			**5. FUNDING NUMBERS**
6. AUTHOR(S) Paul N. Nobbe, Jr.			
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Naval Postgraduate School Monterey, CA 93943-5000			**8. PERFORMING ORGANIZATION REPORT NUMBER**
9. SPONSORING /MONITORING AGENCY NAME(S) AND ADDRESS(ES) N/A			**10. SPONSORING/MONITORING AGENCY REPORT NUMBER**
11. SUPPLEMENTARY NOTES The views expressed in this thesis are those of the author and do not reflect the official policy or position of the Department of Defense or the U.S. Government.			
12a. DISTRIBUTION / AVAILABILITY STATEMENT Approved for public release; distribution is unlimited			**12b. DISTRIBUTION CODE**

13. ABSTRACT ***(maximum 200 words)***

The purpose of this thesis is to review the viability of mass airborne operations in the context of today's modern war environment, specifically in a Major Regional Contingency (MRC) scenario as outlined in the most current Quadrennial Defense Review. My definition of a mass airborne operation is an operation conducted by a unit of brigade/regiment size or larger. I analyzed thirteen mass airborne operations, conducted by several nations and in several regions of the world, and determined that the success rate of these operations was only marginal. I also analyzed the U.S. Air Force's total lift capability, compared that against the MTM/D requirements as determined by the QDR, and decremented that total by the airlift required to support the 82nd Airborne Division. Overall, USAF is not prepared to conduct both missions simultaneously. I then evaluated the critical and unique nature of the 82nd Airborne, as compared to the other light divisions and the 75th Ranger Regiment, and concluded that for the missions assigned, the overall airborne force that the U.S. Army maintains is too large, and could be reduced to fulfill its missions, thereby freeing up much needed resources for the remainder of the force.

14. SUBJECT TERMS 82nd Airborne Division, Airborne Operations, Vertical Envelopment			**15. NUMBER OF PAGES** 107
			16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	**18. SECURITY CLASSIFICATION OF THIS PAGE** Unclassified	**19. SECURITY CLASSIFICATION OF ABSTRACT** Unclassified	**20. LIMITATION OF ABSTRACT** UL

NSN 7540-01-280-5500 Standard Form 298 (Rev. 2-89)
Prescribed by ANSI Std. 239-18

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MASS VERTICAL ENVELOPMENT (AIRBORNE) OPERATIONS: A CRITICAL CAPABILITY IN THE ARMY AFTER NEXT?

Paul N. Nobbe, Jr.
Major, United States Army
B.A., University of Notre Dame, 1988

Submitted in partial fulfillment of the
requirements for the degree of

MASTER OF SCIENCE IN DEFENSE ANALYSIS

from the

NAVAL POSTGRADUATE SCHOOL
June 2002

Author: Paul N. Nobbe, Jr.

Approved by: David C. Tucker
Thesis Advisor

John J. Arquilla
Second Reader

Gordon H. McCormick
Chairman, Department of Defense Analysis

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ABSTRACT

The purpose of this thesis is to review the viability of mass airborne operations in the context of today's modern war environment, specifically in a Major Regional Contingency (MRC) scenario as outlined in the most current Quadrennial Defense Review. My definition of a mass airborne operation is an operation conducted by a unit of brigade/regiment size or larger. I analyzed thirteen mass airborne operations, conducted by several nations and in several regions of the world, and determined that the success rate of these operations was only marginal. I also analyzed the U.S. Air Force's total lift capability, compared that against the MTM/D requirements as determined by the QDR, and decremented that total by the airlift required supporting the 82nd Airborne Division. Overall, USAF is not prepared to conduct both missions simultaneously. I then evaluated the critical and unique nature of the 82nd Airborne, as compared to the other light divisions and the 75th Ranger Regiment, and concluded that for the missions assigned, the overall airborne force that the U.S. Army maintains is too large, and could be reduced to fulfill its missions, thereby freeing up much needed resources for the remainder of the force.

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ACKNOWLEDGMENTS

I would like to express my deepest gratitude to the professors of the Defense Analysis Depart at the Naval Postgraduate School. I am deeply indebted to Professor Gordon McCormick, Professor. George Lober, Professor Anna Simons, Professor John Arquilla, Professor Glen Robinson, Professor David Tucker, and Jennifer Duncan for their untiring efforts in shaping tomorrow's military leaders.

I would especially like to thank Miss Julie Carter. Without her patience, support, and unflagging enthusiasm, this work would not have been completed. Thank you.

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I. INTRODUCTION

> Where is the Prince who can afford so to cover his country with troops for its defense, as that ten thousand men descending from the clouds, might not, in many places, do an infinite amount of mischief before a force could be brought together to repel them?
>
> Benjamin Franklin, 1784

A. GENERAL

The creation of military elite forces has frequently been the result of battlefield frustration, a response to the enemy's success, and/or a need to regain lost initiative. The loss of maneuver warfare and the resultant attrition strategy led to the development of the tank during WWI. The creation of airborne forces prior to WWII was also a development aimed at reintroducing maneuver as a form of warfare. Paradoxically, the creation of these elite forces has often failed to solve the problem perceived at their founding, and sometimes has created new ones. Not only does their special status produce friction within the Army due to budgeting issues, siphoning off higher quality soldiers, and arguments over roles and missions, but also their popular images have also often obscured the record of their success (Beaumont, 1988, pp. 1-2).

These elite units have also frequently been used – and misused – for other purposes than their original design. The high quality of training and the zeal of elite forces' stand in sharp contrast to both shortages in and quality of manpower in their parent forces. Because of this, many elite forces were often involved in prolonged fighting against standard units with heavier weapons and better support facilities, usually resulting in heavy losses. There was also the question of a "leadership drain." How much did special units rob their parent organizations of leadership? Shouldn't the privates in these elite forces have been the sergeants and lieutenants in the conscript army? (Beaumont, 1988, pp. 1-2). These are all very relevant questions that need to be thought of and discussed when dealing with the issue of airborne forces.

1. The Current Situation

For the past several years, beginning under former Chairman of the JCS, GEN Colin Powell, and continuing under Secretary of Defense Donald Rumsfeld, the United

States Army has been conducting a review of its force structure. This review has focused on the viability of all unit types compared against the overall future needs of the service. This review requires that all branches, all units within the Army, and indeed all the services examine their usefulness and applicability within the context of Joint Vision 2020. It is my concern that the airborne forces of the U.S. Army are considered above this level of inspection, that because of their "uniqueness" and history they are still considered invaluable to the force structure of the U.S. Army in the next century.

2. The Argument in Favor of Airborne Forces

Although most modern militaries maintain some sort of airborne capability, in very few cases in modern history have these forces been utilized as originally intended. In fact, in the cases where airborne operations were conducted, the costs involved in manpower and material were often staggering, and the success of these missions dubious. Despite a mixed record of success and failure, it has been argued often, and thus far successfully, that this type of force and its capabilities are needed to maintain the global strategic flexibility of the United States.

3. The Changing Face of Warfare

Since their inception in World War II, airborne forces have been developed and maintained by most countries in the world that are able to maintain a credible and professional military. In The Military Balance, 1981, sixty-nine nations around the world claimed to have airborne forces (Weeks, 1976). Technologies have so changed the face of warfare, that many of the tactics, techniques, and procedures developed before and during WWII, and used since in many different wartime arenas, are no longer relevant. The air fleets that were used to drop airborne armies during Operation Market-Garden in WWII no longer exist, and in the "come as you are war" of the future, there will be no time to produce them. Despite these problems, we provide airborne forces resources far beyond that of other light infantry units, with the expectation that when used in combat, our investment will reap huge rewards.

The debates about the big airborne operations of WWII have been inconclusive. There is no denying the great tactical and strategic possibilities of the airborne arm, but other studies have also drawn great attention to their heavy logistic dependence and their absolute need of air mastery for big operations. This question is not just a matter of

historical interest; on the contrary, the question is highly topical. The current operational plans designed by the Theater Commanders-in-Chief (CINCs) are based on the inclusion of airborne forces to support their successful conclusion. U.S. doctrine specifies many methods in which airborne forces can be utilized to affect the commander's operational plans (FM 71-100, 1996). If those forces do not provide a critical function, and if they are too large to be transported to the MRC by U. S. Air Force assets, then an organizational or doctrinal change needs to be made.

B. OBJECTIVE

The purpose of this thesis is to review the viability of mass airborne operations in the context of today's modern war environment, specifically in a Major Regional Contingency (MRC) scenario as outlined in the most current Quadrennial Defense Review. My definition of a mass airborne operation is an operation conducted by a unit of brigade/regiment size or larger. Currently, U.S. doctrine describes the division as the largest tactical unit capable of operating independently and sustaining itself (FM 71-100, 1996). The division is organized to maneuver and fight by brigade, and this is the method that the 82nd Airborne uses to conduct its tactical missions. For this reason, I have chosen to examine just how well those airborne operations conducted at this level fared in combat, in situations that replicate what U.S. forces might have to face in a future MRC.

This thesis will explore the viability of mass airborne operations utilizing the following methodological steps. I will begin by conducting nine case study analyses, using brigade/regiment or larger airborne operations conducted by the U.S., Great Britain, Germany, and the USSR. I will also analyze two airborne operations conducted by Israel and Japan to compare the potential of smaller airborne operations as a viable operational method. These case studies will focus on the missions given to the airborne forces, whether they achieved tactical, operational, or strategic success based on the missions assigned, and the casualties in manpower and material compared to the critical nature of the operation. I believe that this analysis will begin to give a more objective picture of the effectiveness of this level of airborne operation.

The next portion of my analysis will review the U.S. Air Force assets that are currently available to conduct airborne operations, whether the Air Force has enough

airlift to conduct their primary mission, and still conduct and sustain airborne operations. I will conclude my thesis with a review the 82nd Airborne's Mission statement and Mission Essential Task List (METL) to determine exactly what missions and roles we expect our airborne forces to execute. In a matrix format I will compare whether the other light units in the U.S. Army are also tasked to accomplish those same tasks, or whether the 82nd Airborne brings something unique and critical to the force structure.

II. THE AIRBORNE EXPERIENCE

> It is from our own experience that we find the best lessons for the future – but as it will always be limited we must also make use of the experience of others.
>
> Field-Marshal von Moltke (Merglen, 1968, p. 28)

In an article in the *Revue de l'Infanterie* of September 1939 an anonymous contributor used these words in writing about the infantry of the air: "Its possibilities are immense…Against an adversary unprepared for fighting it, this new arm will win easy successes which can prove decisive." This prediction proved true only eight months later when German airborne forces proved decisive during the fighting in Holland, establishing themselves as one of the original features of WWII (Merglen, 1968, p. 98).

Students of modern military history should be well versed regarding the many daring airborne operations that have been successful, usually beyond all reasonable expectations. An example of one such operation would be the German airborne assault on the Belgian's Ft. Eben Emael during WWII, whose capitulation opened the way for German forces to bypass the western flank of the Maginot line. One significant characteristic of those successful airborne operations was that they were very limited in their scale, usually using forces of battalion-size or smaller to overcome their objectives. Due to the degree of success enjoyed by these smaller airborne operations, I have focused on the contributions made by employing airborne forces at larger operational levels.

One trend that would continue throughout WWII, and become formalized in current U.S. airborne doctrine, was the application of larger airborne forces in more complex operations. The culminating example of this trend was the use of the 1st Allied Airborne Army, comprised of the 1st British Airborne Division, the 82nd Airborne Division, and the 101st Airborne Division, during Operation Market-Garden in Holland. This chapter will examine the effectiveness of those mass airborne operations to determine if they were as successful as the smaller operations that preceded them. Were they able to accomplish more because of their greater size, or were their marginal successes worth the expenditure in men, aircraft, and equipment?

DATE	Location	Size of Airborne Unit Involved	Nationality of Airborne Forces
Apr-40	Denmark- several areas	Company-Battalion	German
Apr-40	Norway-Dombaas	Battalion	German
May-40	Holland	Division (+)	German
May-40	Norway-Bjornfeld	Battalion	German
Apr-41	Greece-Cephalonia	Battalion	Italian
May-41	Crete	Division (+)	German
Jan-42	N. Celebes-Melado	Battalion	Japanese
Jan-42	Vyazma	Brigade	U.S.S.R.
Feb-42	Java-Palembang	Battalion	Japanese
Feb-42	Port. East Indies - Timor	Battalion	Japanese
Nov-42	Algeria-Tunisia	2 Battalions	U.S. - British
Jul-43	New Guinea-Noemfoor	Regiment (-)	U.S.
Jul-43	Sicily	Division (+)	U.S. - British
Sep-43	Salerno	Division	U.S.
Sep-43	Voronezh Front - Dnepr	Brigade	U.S.S.R.
Mar-44	Burma	Division (-)	British - Indian
Jun-44	Normandy	3 Divisions	U.S. - British
Jun-44	Philippines - Cagayan Valley	Regiment	U.S.
Aug-44	French Riviera	Divisions (-)	U.S. - British
Sep-44	New Guinea - Nadzab	Regiment	U.S.
Sep-44	Eindhoven-Nijmegan-Ardennes	3 Divisions (+)	U.S. - British - Polish
Dec-44	Philippines - Leyte Gulf	Battalion	Japanese
Dec-44	Belgium - Ardennes	Battalion	German
Feb-45	Philippines - Tagatay Ridge	Regiment	U.S.
Feb-45	Corregidor	Regiment	U.S.
Feb-45	Germany - Breslau	Battalion	Germany
Mar-45	Rhine Crossing - Wesel	2 Divisions	U.S. - British
Mar-51	Korea - Munsan	Regiment	U.S.
Oct-51	Korea - Sukchon/Sunchon	Regiment (+)	U.S.
Nov-53	Laos-Dienbiephu	Regiment (+)	French
Oct-56	Sinai-Mitla Pass	Battalion	Israel
Oct-56	Egypt - Port Said area	4 Battalions	British-French

Table 1. History of Airborne Operations (From Beaumont, 1988, p. 185-187).

The number of airborne operations conducted after the first airborne trial by the USSR in 1934 is very limited. Only thirty-three operations of battalion size or larger have occurred around the world (See Table 1). To further narrow the field of study, eighteen of those thirty-three operations, or 55% have been of Brigade/Regiment-size or

larger. U.S. airborne forces have conducted twelve, or 66% of those mass airborne operations. Obviously then, the U.S. military believed this type of force application had some merit, and because of the continued existence of the 82nd Airborne Division, that it still maintains a vital place in the force structure of the U.S. Army. I would question whether that belief stems from a romantic attachment to those mass airborne operations, of the sight of hundreds of airplanes dropping thousands of paratroopers on daring do-or-die missions against the enemy, or whether it is based upon something more concrete and objective?

In this chapter I will examine nine mass airborne operations (those of brigade/regiment size or larger) to determine their results. Six of those case studies will cover U.S. airborne operations, since it is the relevance of a division-sized airborne force in the current U.S. Army force structure that I am most concerned with. Those six U.S. mass airborne operations studied are: Sicily, Normandy, Arnhem, the Rhine Crossing, and the two operations conducted during the Korean War. I will also examine the three additional largest airborne operations from Table 1: the German operations in Holland and on Crete, and the Soviet operation along the Dnepr River during WWII.

To provide a counterpoint to my evaluation of these mass airborne operations, I have also included a case study from the military histories of both Israel and Japan. I include these case studies to examine the potential that smaller airborne operations may have in a future MRC scenario.

I have purposely not examined those mass operations that resembled a raid (the U.S. airborne assault on Corregidor), or those where the airborne forces jumped into action as reinforcing troops (U.S. airborne assaults into Salerno and Panama) since any light force could have been used in that role. I have also not included those operations where the majority of the operation was conducted with the airborne forces acting as ground combat troops (the British in Burma, the U.S. in the Philippines). It is a well documented fact that airborne forces the world over perform excellently as ground combat troops, but in keeping with the primary question of this thesis, I will not examine the utility of their functioning in this role.

The methodology that I will use in Chapter I is a comparative case analysis. Each case study will be examined by separating it into three sections. First, I will give a brief overview of the strategic situation so that the purpose of the airborne mission can be seen in relation to the context of the ground operation. Secondly, I will relate the mission of the airborne forces as a measure of effectiveness to judge their success or failure. The last segment of each operation will address the operational results. The Measure of Effectiveness (MoE) that I will use is the most important one; whether the airborne force was successful in accomplishing its missions, and meeting the operational objectives of the ground forces. That MoE, success or failure, will be measured against the costs incurred, costs measurable in lives lost and material destroyed.

A. THE AMERICAN AIRBORNE EXPERIENCE

1. World War II

The U.S. came late to the use of airborne forces during WWII, following the experiences of Germany, the USSR, and Great Britain. Prior to 1943, U.S. airborne operations were very limited in their scope and execution. U.S. airborne forces had conducted several limited operations of battalion size or smaller during the fighting in North Africa, but in 1943 those operations would be greatly expanded. The first test of those fledgling airborne units in a larger supporting role would occur in the invasion of Sicily.

a. Invasion of Sicily (Operation Husky I & II), July, 1943

(1) The Situation. During January 1943, the Allied leaders met at the Casablanca Conference to determine where the next Allied blow would fall following the defeat of the Axis powers in North Africa. It was decided that eliminating Italy from the fighting would put tremendous strain on Germany's resources, and that the island of Sicily would be the place to strike. Sicily would provide the first operation for any American airborne division, and the first major airborne assault by the Allies at night. Invasion plans called for the Seventh U.S. Army and the British 8th Army to make a series of simultaneous amphibious assaults, assisted by American and British airborne landings, on the southeast coast of the island (Huston, 1972, p. 155).

(2) The Mission. The British and American airborne unit's mission was to seize key chokepoints to block the arrival of enemy reinforcements

attacking against the Allied beachheads, and to further clear the way for the Allied troops to advance inland. Before midnight on D-1, a brigade of the British 1st Airborne Division was to land immediately south of Syracuse to seize a vital bridge and key points commanding the city. The U.S. 505th Regimental Combat Team (82nd Airborne Division) would drop behind the city of Gela with three missions: (1) to block all roads leading to the landing beaches from Gela, (2) to occupy key points within the DZ so that it could be used again by other elements within the division (Devlin, 1979, p. 213), and (3) to clear the way for the advance of the U.S. 1st Infantry Division on Ponte Olivo and its airfield (Huston, 1972, p. 155).

The British airborne brigade's plan was to assault by glider, while the Americans would jump in by parachute. 266 C-47s of the 52nd Troop Carrier Wing would drop the 3,405 paratroopers of the 505th Regimental Combat Team (RCT) on their drop zones located to the northwest of Gela. The follow on reinforcements (the 504th RCT) would drop on the night of D-Day to reinforce the troops in the Gela area (Devlin, 1979, p. 223).

(3) The Results. Technically, the airdrops conducted on both D-1 and D-Day would have to be judged as disastrous. During the first night, approximately one eighth of the airborne assault force actually landed as planned, with some units landing as far as fifty to sixty miles from their objectives. One unfortunate incident during this operation occurred during the reinforcing drop on D-Day. 144 C-47 air transports carrying approximately 2000 men of the 504th ran into intense friendly fire during their drop. This resulted in the loss of twenty-three planes, six with paratroopers still on board. Thirty-seven more aircraft were badly damaged. Paratroopers were again scattered on the drop, all the way from Gela to the east coast, as pilots took evasive action. From this incident alone the 504th would report 81 killed, 132 wounded, 16 missing, and the 52nd Troop Carrier Wing 7 killed, 30 wounded, and 53 missing (Huston, 1972, pp. 159-161).

Regardless of those technical mishaps, the majority of the assigned missions were accomplished. One unintended consequence of the misdrops was the amount of unplanned assistance that the paratroopers were able to provide across the front of the amphibious forces. Wherever they ran into the Axis forces they conducted

ambushes, destroyed roadblocks and strongpoints, and generally disrupted the enemy's attempt to reinforce the beach areas (Huston, 1972). Due to their actions, the paratroopers did slow the Axis movements to the beach, although they were not completely successful, and they were able to open up the routes for the units on the beaches as they began their movements to the north of the island.

Another measure of effectiveness (MOE) that might be considered would be the words of the commanders themselves. General Patton, commanding the U.S. Seventh Army, affirmed, "his swift and successful landings followed by a rapid advance inland would not have been achieved at such a light cost or at such a speed without the action of his airborne division." (Huston, 1972, p. 164). General Kurt Student, the father of Germany's airborne forces, attributed the entire success of the Allied operation to the delaying of the German reserves until the amphibious forces had built up enough strength to resist their counter-attacks (Huston, 1972, p. 164). A dissenting opinion came from General Eisenhower. In his after action report on the Sicily invasion to General Marshall he wrote, "I do not believe in the airborne division…To employ at any time and place a whole division would require dropping over such an extended area that I seriously doubt that a division commander could regain control and operate the scattered forces as one unit" (Huston, 1972, p. 166).

Overall, the airborne operations that supported the invasion of Sicily must be viewed as a success in light of the units accomplishing their assigned missions. The missions given to the airborne forces were achieved after some delay, and the overall losses were not appallingly high. It is the reliance on Little Groups of Paratroopers, or LGOPs as they are known in the airborne community, to achieve critical objectives, even though dropped far from those objectives, at night, and with no leadership, that seems to be wishful thinking on the part of operational planners. Any unintentional effects that those LGOPs achieve, such as the disruption of enemy troop movements, as they move towards their objectives must remain secondary to the primary mission of the unit.

b. Invasion of France (Operation Overlord), June 1944

(1) The Situation. As the planning for Operation Overlord began, one of the major questions that needed to be answered was the manner and scope

of the employment of airborne troops. Gen. Marshall urged Gen. Eisenhower to use the airborne forces to establish an airhead deep inside French territory. Eisenhower decided against this option, instead planning to use the airborne forces to support the amphibious landings, thereby promoting their success. As the planning continued, it became clear that the airborne assault, a night operation which would precede the D-Day beach landings by several hours, would be a critical factor in the success of the whole invasion effort (Huston, 1972, pp. 170-171).

(2) The Mission (See Figure 1). The VII Corps' missions were to land at Utah beach and then capture the Cotentin peninsula. The overarching mission of the airborne troops was to block the movement of enemy reinforcements into the Cotentin peninsula. The 82nd Airborne's mission was to drop astride the Merderet River, one parachute regiment to the east and two to the west of the river. They were to capture Ste. Mere-Eglise, establish bridgeheads over the Merderet on the two main roads running westward from the city, and protect the beachhead from the west, clearing the way for a drive toward St. Sauveur-le Vicomte. The 101st Airborne Division was to protect the left flank of the VII Corps. It was critical that they seize four causeways that served as the westward exits from Utah Beach, capture the large stone locks that spanned the Douve River at La Barquette, and establish a defensive position along the Douve riverline west to Saint Come-du-Mont (Devlin, 1979, pp. 371-373).

(3) The Results. Following in the pattern of the airborne assault into Sicily, this night jump saw the paratroopers of both divisions often dropped wide of their designated Drop Zones (DZs) as the air formations became scattered due to weather and enemy flak. Parachutists of the 101st Airborne were scattered in a wide area southeast of Ste. Mere-Eglise, and by 2400 hours on D-Day only 50% of the 101st Airborne was accounted for. In spite of their scattered landings, enough paratroopers of the 101st landed close enough to their assigned objectives that they were able to capture them quickly. Most importantly, they had been able to secure the vital causeways that exited the beaches, permitting the troops landing by sea to move inland (Huston, 1972, p. 182). The cost of accomplishing those objectives was high for the lightly armed airborne troops, with the casualty figures set for the 101st at 1,240 killed in action (KIA), wounded in action (WIA), or missing in action (MIA) (Devlin, 1979, p. 412).

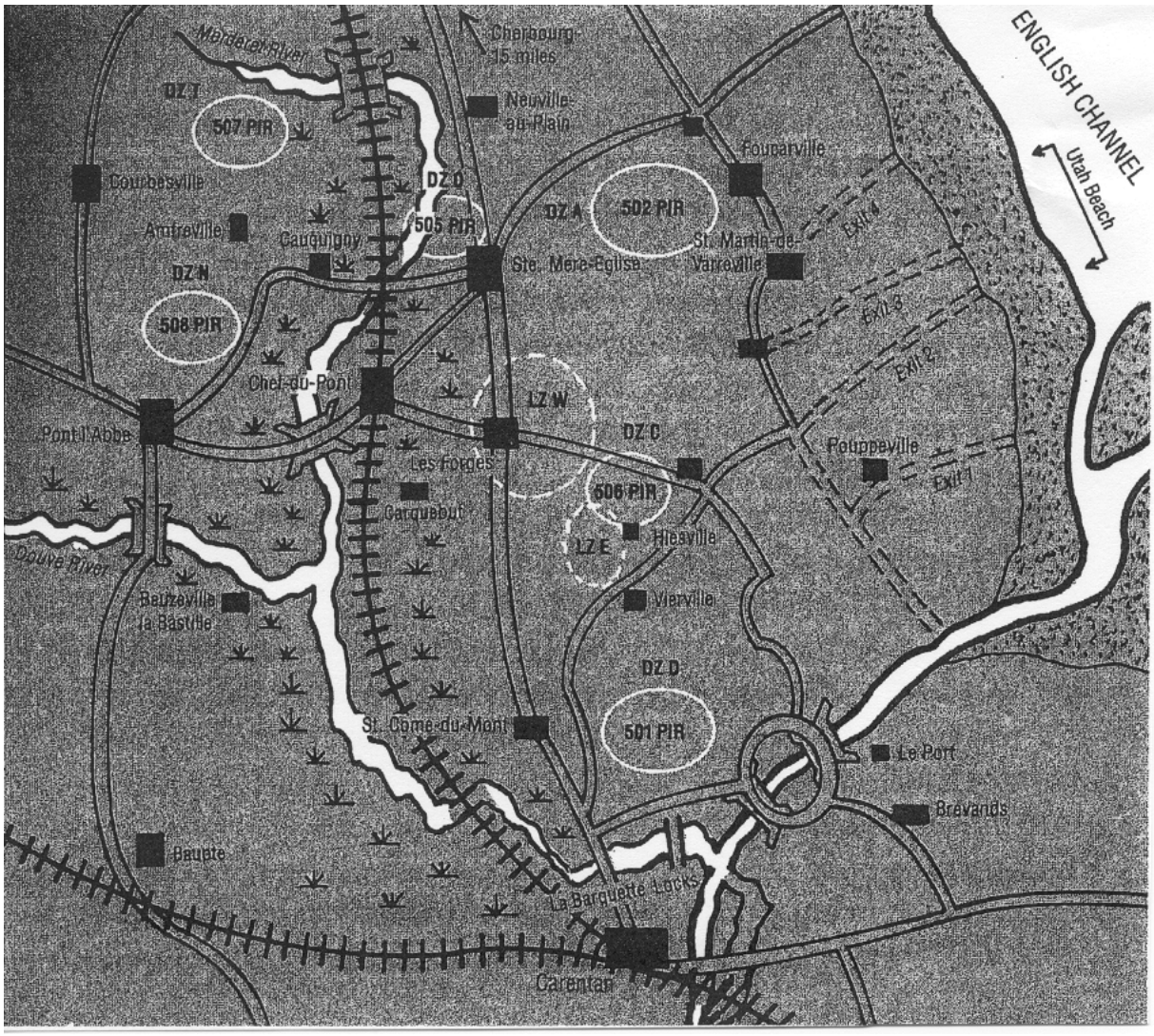


Figure 1. Airborne Plan for Operation Overlord (From Devlin, 1979, p. 371).

Between the two divisions, the 82nd Airborne suffered the worse drop. It found itself so scattered that it would only accomplish one of its D-Day objectives: the capture of Ste. Mere-Eglise. General Ridgway, the commanding general of the 82nd, would estimate that over 4,000 men were unaccounted for, and most of his supplies missing (Devlin, 1979, p. 411) by the end of that first day. It would take several more days before the paratroopers would be able to capture the two bridges west of St. Mere-Eglise that spanned the Merderet River. Their efforts cost the 82nd paratroopers on D-Day alone 1,259 casualties, KIA, WIA, or MIA (Devlin,1979, p. 412).

Another MOE to evaluate the overall contribution of airborne troops at Normandy would be to examine the casualty figures of the amphibious assault troops. The landings at Utah Beach faced little opposition, and over 20,000 men and 1,700 vehicles had landed at the beach by the end of D-Day, and of those, only 12 were KIA, and 46 WIA. Omaha Beach was not supported by airborne operations, and the result of the landings was much different. Over 2,374 men were listed as KIA, WIA, or MIA by the end of the day (Devlin, 1979, p. 414). Coincidentally, that is approximately the same number of casualties that the airborne forces suffered supporting the Utah Beach landings.

In a period of five days, approximately 17,400 paratroopers and glider-borne troops would land in Normandy. C-47 aircraft had flown 1,672 sorties with a loss of 43 airplanes. Airborne forces would continue to fight in a ground role for thirty-three days until they were relieved on 8 July 1944 (Huston, 1972, p. 186). When the 101st left the Continent for England, it had lost over 4,670 troopers, KIA, WIA, or MIA. The 82nd was even in worse shape, losing 5,245 troopers (Devlin, 1979, p. 416).

It is extremely difficult to grade the success of the airborne forces since the overall invasion success was so overwhelming. More than any other operation during WWII, any cost necessary to achieve the overall success of the Normandy landings was considered acceptable to the Allied High Command. The inability of the airborne divisions to function as units, instead of bands of LGOPs for 24 to 48 hours after the airdrops, certainly hampered their ability to accomplish their objectives. It would take several more days, and in one case a week, before all their objectives would finally be taken. Several factors aided the misdropped paratroopers as they moved towards their objectives. The hedgerow terrain, no real German opposition until the morning hours of D-Day, and the lack of any German aerial attacks certainly provided enough edge to allow the paratroopers to organize themselves rapidly enough to avoid being kept from accomplishing any of their missions.

Although many airborne supporters would point out the disparity of casualties between Omaha and Utah Beaches, even in the face of stiff opposition the assault forces at Utah Beach were able to secure a beachhead, and their losses were no greater than those suffered by the airborne units who dropped in front of Omaha Beach.

This should raise the question about just how critical this airborne operation was to the overall success of the invasion.

I believe that the airborne operation supporting Operation Overlord was successful, with a heavy reliance on the initiative, courage, and audacity of the paratroopers to make up for the faulty execution of the landings. These qualities should be prized, but not planned for when the missions and objectives are so critical to the overall success of the force they are supporting.

c. Operation Market-Garden, Sept 1944

> On the narrow corridor that would carry the armored drive, there were five major bridges to take. They had to be seized intact by airborne assault. It was the fifth, the crucial bridge over the Lower Rhine at a place called Arnhem, sixty-four miles behind the German lines, that worried Lieutenant General Frederick Browning, Deputy Commander, First Allied Airborne Army. Pointing to the Arnhem bridge on the map, he asked, "How long will it take the Armor to reach us?" Field Marshal Montgomery replied briskly, "Two days." Still looking at the map, Browning said, "We can hold it for four." Then he added, "But, sir, I think we might be going a bridge too far."
>
> The final conference at Montgomery's Headquarters on Operation Market-Garden, September 10, 1944, as recalled in Major General Roy E. Urquhart's memoirs, <u>*Arnhem*</u>. (Ryan, 1974, p. 9)

Although I am placing Operation Market-Garden under the American airborne experience, I am also including this operation as a British airborne experience, as it was the most ambitious use of their airborne force during WWII.

(1) The Situation. Between June and September 1944, the situation facing the Allies along the Western front had changed dramatically. The Allied assault on the Normandy beaches in June has broken the "impregnable" Atlantic Wall within hours (Ryan, 1974, p. 31). In the following months, Patton's 3rd Army and Montgomery's 21st Army Group would break out of the D-Day beachheads, causing the retreat, and eventual rout of all German forces from France. In the ninety-two days since the invasion of Normandy, 300,000 German soldiers had been killed, wounded, or were missing (Ryan, 1974, p. 53). All of western and southern France would be in the hands of the Allies, and Paris recaptured from the Germans. By September, Patton's 3rd Army

had reached the Metz River, a scant 50 miles from the Saar region, one of the principal manufacturing regions in Germany. Allied forces commanded by General Bradley had almost reached the Siegfried Line along the Luxembourg/German border in the center, and Montgomery's 21st Army Group was situated along the Belgian/Dutch border in the north, having taken the important port city of Antwerp on 4 September 1944 (Ryan, 1974). At this point the Allied advance stalled, as the need for supplies of all types, and especially fuel, combined with the rapid pace of the advance after the retreating Germans, had worn out the Allied troops. General Eisenhower was looking for a way to jumpstart the stalled advance and to use the 1st Allied Airborne Army, and General Montgomery provided him the means to do both.

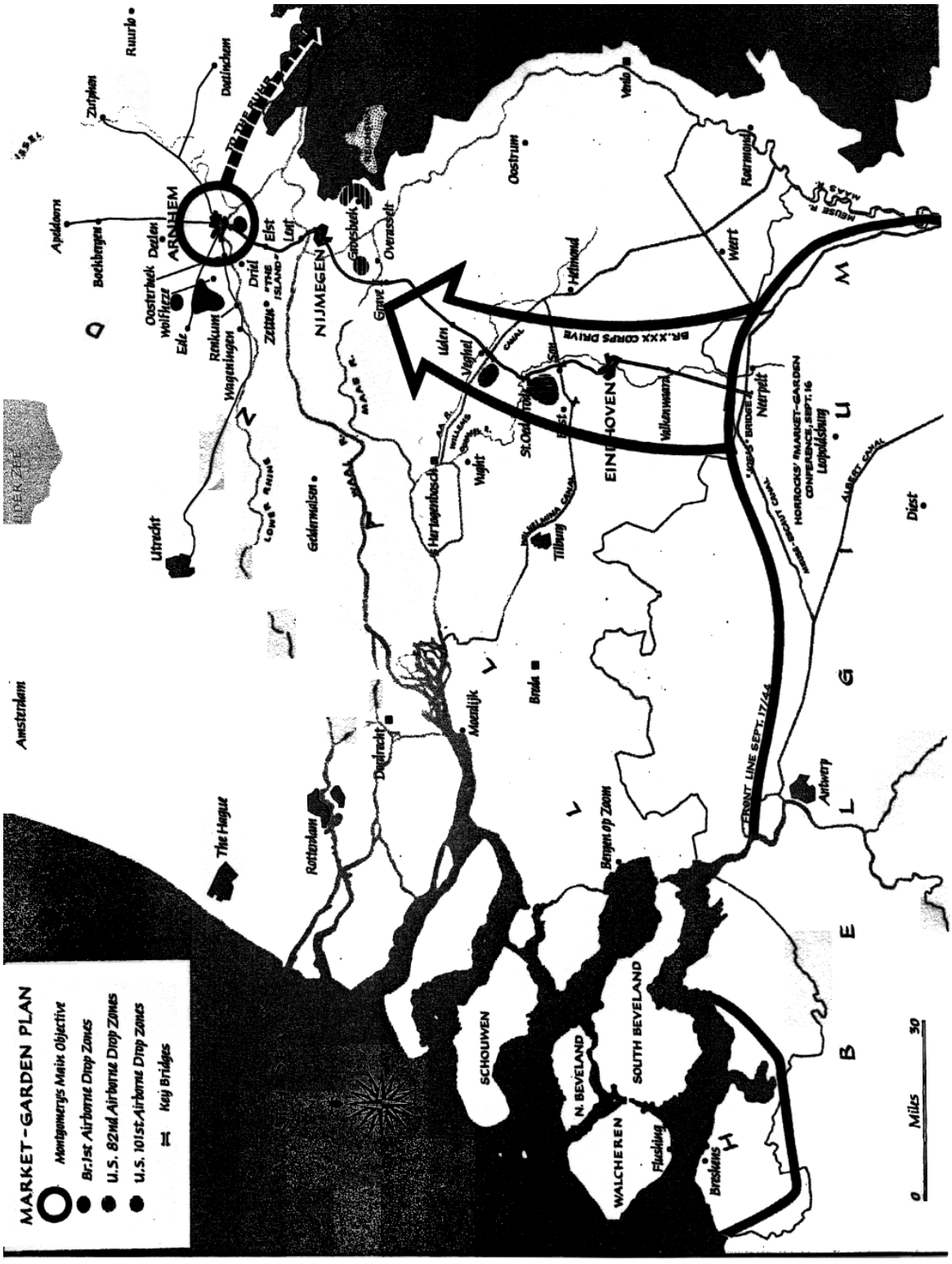
(2) The Mission (See Figure 2). Operation Market-Garden was a combined airborne and ground offensive, with the overall objective of sprinting Allied armored forces through Holland, crossing the Rhine River, and entering Germany itself (Ryan, 1974). Field Marshall Montgomery envisioned three main goals for the offensive: First, it would cut off major German forces in Holland that were still defending along the Schelde Esturary and preventing the Allies from using the key port of Antwerp. Second, his forces would outflank the German's Seigfried Line. Finally, the successful outcome of the plan would place sizable British forces across the Lower Rhine at Arnhem, ready to smash through into the important industrial Ruhr area of Germany (Devlin, 1979, p. 470).

As the "Market" portion of the operation, the 1st Allied Airborne Army, comprised of the 1st British Airborne Division, the 82nd Airborne Division (US), the 101st Airborne Division (US), and a Free Polish Airborne Brigade, would execute a daylight paratroop assault into three target areas, essentially laying down an airborne carpet from Eindhoven to Arnhem. The 101st Airborne would jump onto their objectives around the city of Eindhoven. They would secure a 15-mile stretch of the vital highway between Eindhoven and Veghel, capturing the bridges at Zon, St. Oedenrode, and Veghel (Devlin, 1979, p. 474). The 82nd Airborne would jump onto their objectives around the city of Nijmegen, securing a ten-mile stretch of road, and capturing bridges over the Waal River at Nijmegen, the Maas River at Grave, and the Maas-Waal Canal bridges between Nijmengen and Grave. The 82nd was also assigned the mission of capturing the

Groesbeek Heights, key high ground that dominated the surrounding countryside and the highway leading from Nijmegen to Arnhem. The British 1st Airborne would jump onto its objectives around the city of Arnhem, with the primary mission of seizing the big highway bridge spanning the Lower Rhine River (Devlin, 1979, pp. 472-473). Overall, there were a total of five key bridges that had to be taken intact, and held, by the airborne forces, for the follow-on armored forces to cross over enroute to their objective east of Arnhem.

The Garden, or ground, forces that made up this operation would be the XXX Armored Corps (Br) of the 21st Army Group. Their mission was to conduct an attack along a single major highway from the Meuse-Escaut Canal along the Belgium-Dutch border, link up with and relieve the airborne forces as they moved north, cross the five major bridges until they had reached Arnhem, then head east along the Rhine River into Germany's Ruhr industrial valley (Ryan, 1974).

The airborne assault would be supported by an unprecedented amount of airpower, employing more aircraft than the operations at Normandy, and executing a more complex plan. On D-Day alone, 1,033 troop carrier planes, 408 of them towing gliders, were used on the northern route carrying paratroopers towards Nijmegen and Arnhem. On the southern route, another 494 planes, 70 with gliders, would fly to the DZs around Eindhoven. 821 B-17 bombers would be used to attack flak batteries along the flight route to the DZs. 313 P-51s, 201 P-47s, and 36 P-38s were to escort the airborne columns. Another 371 fighter-bombers of the RAF would provide on-call fires, while 102 medium and light bombers would attack enemy barracks at several locations (Huston, 1972, p. 2). This huge aerial armada would not only be employed on D-Day, but for several days thereafter as well. The concept of the operation called for three days of parachute and glider drops, with resupply missions being conducted as well. An additional 5,200 tons of supplies, including 568 artillery pieces and 1,977 vehicles, would be delivered by airplanes and gliders (Huston, 1972, p. 38) during the nine days of Market Garden.


MARKET-GARDEN PLAN
Montgomerys Main Objective
Br.1st Airborne Drop Zones
U.S. 82nd Airborne Drop Zones
U.S. 101st Airborne Drop Zones
Key Bridges
ARNHEM
NIJMEGEN
EINDHOVEN
Utrecht
Amsterdam
The Hague
Rotterdam
Dordrecht
Moerdijk
Breda
Tilburg
Hertogenbosch
Geldermalsen
Grave
Oosterbeek
Wolfheze
Renkum
Wageningen
Zetten
Driel
Elst
Oosterbeek
Doetinchem
Zutphen
Ruurlo
Apeldoorn
Boekhergen
Oostrum
Venlo
Helmond
Weert
Roermond
Valkenswaard
Veghel
Uden
Vught
St.Oedenrode
Nijmegen
Overasselt
Gennep
Mook
Nijmegen
Arnhem
Oosterbeek
Wolfheze
Renkum
Wageningen
Zetten
Driel
Elst
Doetinchem
Zutphen
Ruurlo
Apeldoorn
Boekhergen
Oostrum
Venlo
Helmond
Weert
Roermond
Valkenswaard
Veghel
Uden
Vught
St.Oedenrode
Eindhoven
Nijmegen
Overasselt
Gennep
Mook
Grave
Geldermalsen
Hertogenbosch
Tilburg
Breda
Moerdijk
Dordrecht
Rotterdam
The Hague
Amsterdam

(3) The Results. Operation Market-Garden was unquestionably the best planned and the most skillfully executed mass airborne operation conducted by the Allies up to this point in the war. Interestingly enough, all three airborne divisions reported that it was the best and most accurate drop they had ever made; better even then some training jumps. That dedication by the aircrews to accuracy had its cost, as sixty-eight troop transports, gliders, and fighter planes went down on D-Day alone (Devlin, 1979, p. 485).

Although all three Allied airborne divisions had landed with greater than expected accuracy, the operation immediately ran into problems. By the end of D-Day, none of the divisions had accomplished their primary missions. The 101st had been unable to take the key city of Eindhoven and secure its bridges, the 82nd had been halted from taking the Nijmegan bridge, and the British 1st Airborne had been only able to seize the north end of the bridge over the Lower Rhine. By D+1, the 101st had secured the key bridges over the Wilhelmina Canal, captured Eindhoven, and linked up with the advancing ground forces. The British Guards Armored Division linked up with the 82nd Airborne's airhead on D+2, but it would not be until D+3 that the 82nd paratroopers, with tank support, would be able to capture and secure the Nijmegen Bridge. On D+5, the British armored force resumed its advance to link up with the British 1st Airborne Division, but were held up for four additional days as German forces repeatedly cut the highway to Arnhem. The British paratroopers were never able to secure the south side of the Lower Rhine Bridge, and primarily were concerned with avoiding annihilation at the hands of German Panzers. On 25 September, D+9, the remaining British paratroopers and their Polish reinforcements conducted a withdrawal across the Lower Rhine River, and rejoined the Allied ground forces. This action effectively ended the operation (Devlin, 1979).

Allied forces suffered more casualties during this operation than during the invasion of Normandy. In the nine days of Market-Garden, combined losses – airborne and ground forces – amounted to more than 17,000 casualties. Of the 10,005 British airborne troopers, including the Poles and glider pilots, casualties totaled 7,578 men. In addition, RAF pilot and crew losses contributed another 294 casualties, totaling approximately 7,782 British KIA, WIA, and MIA. American losses, including glider

pilots and IX Troop Carrier Command combined for a total of 3,974 casualties. The 82nd Airborne Division accounted for 1,432, the 101st 2,118, and aircrew losses 424 (Ryan, 1974, p. 599).

Of all of the mass airborne operations that were conducted during WWII, Operation Market-Garden had the potential of being the greatest success, and yet eventually ended as the greatest failure. As historians have pointed out repeatedly, there were numerous reasons for that failure. Not having the capability to airdrop the entire airborne force on D-Day played a major role in their failure to quickly accomplish their missions. The ground forces' inability to make better time up "Hell's Highway", and trying to accomplish this mission only using one route are another. Bad communications, poor intelligence regarding experienced German armor at Arnhem, and poor tactical DZ placement by the British airborne commander are also possible answers. In the final analysis though, I believe it was the improper alignment of the airborne forces' capability against an objective that could not be properly supported by either the air or follow-on ground forces that led to the failure of this operation. More than any other type of force, an airborne unit is solely reliant on other forces, whether they are air forces for resupply, or reinforcing ground forces with heavier firepower, for their success. If either of these two types of support is lacking, as was the case here, then the mission will fail. As the airborne commanders themselves pointed out in after-action reviews, this (operation) had only been a "marginal performance", and they expressed the fear that their near success might lead in the future to commitment of their units in less favorable circumstances and the sacrifice of their divisions in an effort beyond their capabilities (Huston, 1972, p. 44).

With regard to reviewing the MoE, not only was the overall mission a failure, and the human losses significant, it must also be remembered that the entire front's operations almost literally came to a standstill. The crucial airlift support that was so critical to the movement of supplies from the initial beachheads to the forward troops was diverted for over 9 days to support this operation. One has to consider how far Patton might have gotten with his Third Army, or how much shorter the war might have lasted, if those precious supplies had been able to reach his forces.

d. Crossing the Rhine

(1) The Situation. By March 1945, the Allied forces had reached the Rhine River, the defensive moat protecting the western border of Germany. General Montgomery, and the British 21st Army Group, was assigned the mission of crossing the Rhine River, and making the thrust into the heart of Hitler's war machine, the Ruhr industrial area. (Devlin, 1979, p. 612.) Montgomery had decided to cross the Rhine between the cities of Emmerich and Wessel, and had given the mission to his 2nd Army Commander, General Dempsey.

(2) The Mission (See Figure 3). The airborne units assigned to the crossing of the Rhine River were the XVIII Airborne Corps (82nd and 101st Airborne Divisions), the 17th Airborne Division, and the British 6th Airborne Division. General Dempsey felt that the Diersfordter Forest, the most prominent terrain feature in his zone of attack, might contain German artillery capable of directing fire at his troops during the crossing. Dempsey assigned the airborne forces the mission of seizing the Diersfordter Forest, plus several bridges across the Issel River, the next barrier to his movement east. The major difference between this assault and previous operations was that the airborne forces would jump into their DZs after the crossing forces had already made their assault, and during daylight hours. Dempsey had two reasons for these decisions: (1) to permit his lead ground-assault units to cross the river protected by darkness and heavy preparation fire on the Diersfordter Forest, and (2) during daylight to allow the airborne troops to have a compact and accurate jump (Devlin, 1979, pp. 613-614). Operation Varsity, as this operation was codenamed, was the largest drop made by either side of the war, with the British 6th Airborne and the US 17th Airborne jumping in on D-Day, March 24. Originally intending to include a third airborne division on D-day, the mission had to be revised due to a lack of jump aircraft. To support the airborne mission, the Allies would utilize 1,696 jump planes and 1,346 gliders in the assault, protected by nearly 2,153 Allied fighters (Devlin, 1979, p. 616).

(3) The Results. Even during this daylight operation, many of the initial drops were off course due to ground haze, with paratroopers landing several miles from their intended drop zones. Regardless of that fact, by 2 p.m. on D-Day the

airborne forces had accomplished all of their assigned missions, and by nightfall, the advancing British ground forces had made contact with the airborne forces.

D-Day casualties were light, with the 17th Airborne Division losing 359 men KIA, 522 WIA, and 640 MIA. The British 6th Airborne Division suffered slightly higher losses, with 347 KIA and 731 WIA. Casualties among the IX Troop Carrier Command, which flew the D-Day drops and aerial resupply missions, were 41 KIA, 153 WIA, and 163 MIA. This was the costliest airborne operation of the war in terms of aircraft lost, with the loss of twenty-two C-46s and twelve C-47s (Devlin, 1979, p. 626). Another fifteen Liberators would also be lost in the resupply efforts of the airborne forces (Bilstein, 1998, p. 37).

The resupply effort for this operation was prodigious. Including the original aircraft that were part of the airborne assault, another 240 Liberators helped drop 580 tons of supplies, including 695 vehicles and 113 pieces of artillery (Bilstein, 1998, p. 37). Again, this raises the crucial question of whether those supplies, and the aircraft used to transport them, might have been better utilized by resupplying those ground operations in the south, supporting the successes already gained in that sector. Indeed, had the same resources been employed on the ground, it is conceivable that that advance to the east might have been even more rapid than it was (Huston, 1972, p. 215).

Although Operation Varsity was an unqualified success in all regards, it has been criticized as an unnecessary operation. This is a critical factor for any airborne operation, as the costs of executing and sustaining such an operation are already high, and conducting an operation that is not necessary detracts from the overall support available to the remainder of the ground forces. Allied forces in the south had already captured the bridge at Remagen, and had forced their way across the Rhine at several additional locations (Bilstein, 1998, p. 36). The issue of criticality must also be addressed, since the paratroopers would not jump until almost 9 hours after the ground-assault forces had already begun their river-crossing operation, and yet, the ground assault forces of the two divisions that they were supporting would lose only 44 KIA and 450 WIA. In view of the relatively light opposition to the assault boat crossings and the rapid advances of the ground forces, it does not appear that the airborne phase was critical to the success of the river crossing operation (Huston, 1972, p. 215).

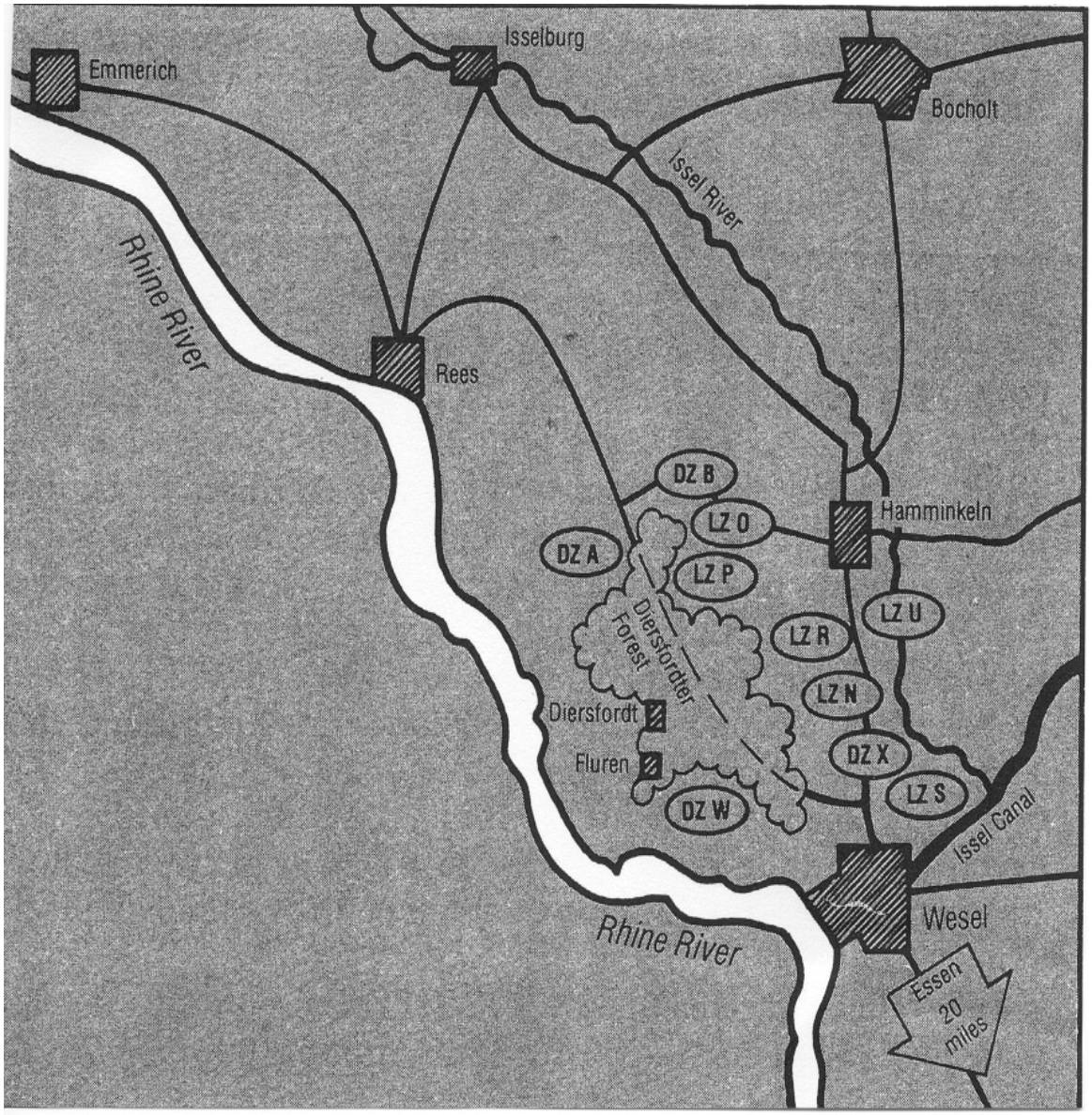


Figure 3. Operation Varsity: Crossing the Rhine (From Devlin, 1979, p. 613).

2. Korea

The U.S. Army, which had possessed an airborne corps and four airborne divisions during WWII, found itself with only the equivalent of a tactical airborne group when the North Koreans invaded South Korea in June 1950. Only two mass airborne operations would be carried out in support of ground force operations, and they would play only a secondary role in the overall conduct of the war.

a. Sukchon-Sunchon

(1) The Situation. The first airborne operation of the war occurred on October 20, 1950. At this stage in the conflict the Marines had completed the Inchon landing, the 8th Army had broken out of the Pusan perimeter, and the North Koreans had fallen back in a disorganized retreat across the 38th parallel.

(2) The Mission. (See Figure 4). General MacArthur's plan for the 187th Regimental Combat Team (RCT) (Airborne) was for them to be parachuted into two drop zones astride two main highways and railroads running north from Pyongyang, the capital of North Korea, to block the main North Korean People's Army (NKPA) routes of escape north (Flanagan, 1997, p. 157). The objective would be the rail and road centers located at Sukchon, about 25 miles north of Pyongyang, and Sunchon, about 30 miles to the northeast of Pyongyang, and 17 miles to the east of Sukchon (Merglen, 1968, p. 178). Another primary mission of the paratroopers, and one vital to MacArthur, was to intercept American POWs forced to move along with the NKPA columns.

(3) The Plan for the Drop. The 1st and 3rd Battalions, plus a part of the 674th Field Artillery battalion (about 1,500 troopers) would jump into DZ Williams at Sukchon to block the two highways and railroads leading north from Pyongyang. On October 21st, the Commonwealth Brigade, attached to the 24th Division, would link up with the paratroopers at Sukchon. For the second part of the plan, the 2/187th, plus some artillery (about 1,300 men) would jump into DZ Easy at Sunchon to block another highway and railroad. The 70th Tank Battalion would attack north from Pyongyang and link up with the 2/187th on D+1 (Flanagan, 1997, p. 157).

To support this operation, the 314th Troop Carrier Wing provided seventy-three C-119s, and the 21st Troop Carrier Wing provided forty C-47s. A typical C-119 load was forty-six men, fifteen monorail bundles, and four door bundles. A C-47 carried eighteen men and 3-4 door bundles (Flanagan, 1997, p. 159).

(4) <u>The Results</u>. Overall, the 187th's operation amounted to little more than a demonstration. A large portion of the surviving NKPA, which they were intended to prevent from escaping, had already retreated north of the Sukchon area. No important North Korean Army or government officials were killed or captured. Most of the American and South Korean POWs had been successfully moved into a remote

part of North Korea prior to the operation, and only twenty-three surviving POWs were found, of the approximately 2,500 POWs in North Korea (Flanagan, 1997, p. 162).

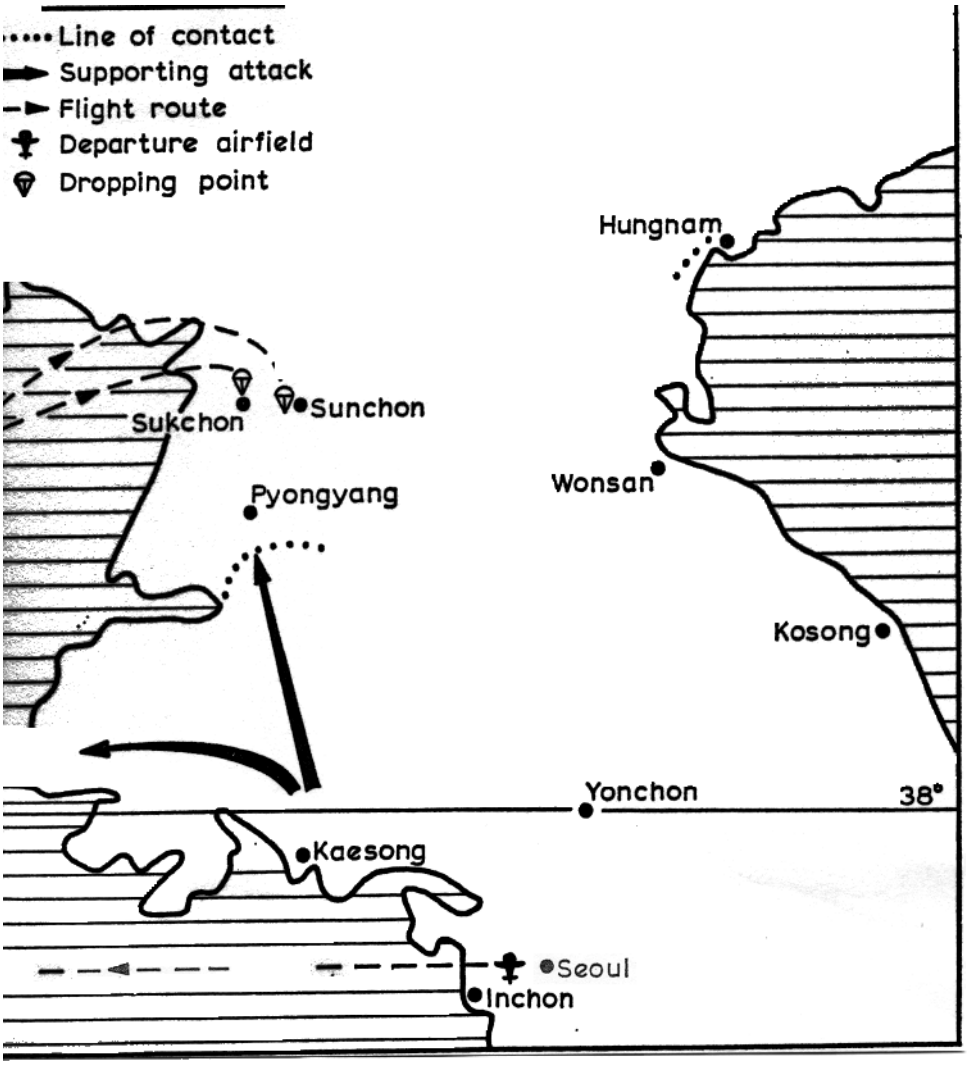


Figure 4. Sukchon/Sunchon Operations. Korea, 1950 (From Merglen, 1968, p. 177).

One outstanding note is the casualty reports. During this operation, the 187th fought almost 8,000 NKPA troops, killing an estimated 2,764. The 187th RCT also captured 3,818 of the enemy. The total 187th RCT casualties were 48 KIA and 80 WIA, and one soldier dead and 56 injured on the initial jumps (Flanagan, 1997, p. 167).

During the drops on the two DZs on the 20th, and during the succeeding days, the 187th RCT dropped approximately four thousand troops and more

than 600 tons of equipment and supplies. Included were twelve 105mm howitzers, 39 jeeps, 38 quarter-ton trailers, four 90mm antiaircraft guns, four three-quarter ton trucks, and 584 tons of ammunition, gas, water, rations, and other supplies (Flanagan, 1997, p. 162). The daylight drops themselves were quite successful, with the majority of the airborne forces landing on their assigned DZs.

Overall, this airborne operation provided very limited tactical support to the situation on the ground, and had absolutely no effect on the strategic development of further operations. Although the operation cost few American casualties, and was very successful in the number of NKPA killed and captured, it can only be considered marginally successful as it did not accomplish its primary objectives. Merglen (1968, p. 184) raises the question of how different the outcome of the war might have been if the airborne mission had been conducted simultaneously with the Inchon landings, conducted a month prior. The objectives desired by MacArthur in October seem much more accomplishable when the airborne mission is linked to the ground force's objectives a month earlier, before the NKPA had already begun their retreat north.

It is again important to note the outlay in Air Force support in sustaining this airborne operation, both during the drop and in the following days, and to consider how that capability might have been used more efficiently to support other ongoing ground operations. By the time the operation was executed, the U.S/U.N. ground forces were already north of Pyongyang, and nearly to the DZs locations. It would appear that the airlift used to support the airborne forces could have been much more useful in supporting the ground forces, instead of supporting a mission with limited value.

b. Munsan-ni

(1) The Situation. The second airborne operation in Korea would occur March 23, 1951. UN forces had retaken Seoul, with I Corps in positions running from Seoul to the northeast. The U.S. Eighth Army was positioned on a line approximately where the war had started some nine months before. General Ridgeway's plan was to bring I Corps forward from the Seoul area to the Imjin River at Munsan (Flanagan, 1997, p. 192).

(2) The Mission. Originally assigned to capture the important communications center at Chunchon, the 187th RCT's mission was changed when the 1st Cavalry Division overran Chunchon on March 21. The 187th was immediately retasked to capture Munsan to block all enemy movement between Seoul and Kaesong (Merglen, 1968, p. 180). The 187th would spearhead I Corps' attack in Operation Tomahawk, dropping in behind the NKPA I Corps. Two large armored task forces would attack to the north through Uijongbu and Munsan-ni, to link up with the 187th and trap the North Koreans between the two forces (Flanagan, 1997, p. 192). The second phase of the operation envisioned an attack by the 187th RCT to link up with the 3rd Infantry Division moving north.

Besides its three normal battalions, the 187th was also assigned two Ranger companies, a battery of four 105mm howitzers, and a 4.2 mortar company. 135 aircraft would carry out the airlift: eighty C-119s and fifty-five C-46s (Flanagan, 1997, p. 194). The FEAF would bomb and strafe the road network between Seoul and Munsan-ni, and support the troop carriers with sixteen F-51 Mustangs ready to attack against ground fire or enemy aircraft (Flanagan, 1997, p. 194). The plan was set up using two DZs: the 3/187th Battalion would drop into the northern DZ, the 1/187th Battalion into the southern DZ, and the reserve forces would follow onto the northern DZ.

(3) The Results. The overall gains from this operation were moderate in comparison to the amount of airborne and air forces used to conduct its execution, although the airborne force was very successful in accomplishing its assigned missions. The airdrops and subsequent ground fighting did disorganize an enemy defensive position under construction in the Munsan-ni area, facilitating the advance of the Allied units north from Seoul into this area. During the second phase of the operation, the 187th RCT enabled the 3rd Infantry Division to resume its advance by eliminating an enemy rearguard action that was hindering its movement forward (Merglen, 1968, p. 182).

Overall, the casualties suffered by the airborne forces were extremely light. Of the 3,447 paratroopers who jumped, 84 men were injured with broken ankles or legs. Eighteen were wounded and one man was killed during the fighting on the ground during the initial phase of the operation. During the fighting from

23-29 March, the second phase of the operation, the 187th decimated the 234th CCF regiment, but suffered heavy casualties of their own; approximately 782 KIA and WIA (Flanagan, 1997, p. 204).

The airplanes of the 314th Troop Carrier Group and of the 437th Troop Carrier Wing dropped a total of 220 tons of equipment and cargo, including 27 jeeps and trailers, two weapons carriers, four 105mm howitzers, twelve 75mm pack howitzers, and fifteen pallets of supplies. During the initial drop, one C-119 was shot down, and another would crash later returning from the airdrop. During the second phase of the operation, the RCT depended totally on aerial supply for the basics of combat. In fifty-six airdrops between 24 and 27 March, Air Force cargo planes dropped 264 tons of critical supplies to the 187th (Flanagan, 1997, pp. 197-199).

Overall, I would rate this operation as a success, since all missions were accomplished, and the loss of men and equipment was marginal. The question of just how critical this operation was to the overall success of the ground forces movement north bears examining. This is an important point to consider when considering an airborne operation. The enormous expenditure of manpower, airlift support, and supplies to conduct a mass airborne operation necessitates that the objectives and missions given to those forces be worth the expenditure. That was not the case with this operation.

B. THE GERMAN AIRBORNE EXPERIENCE

The German airborne experience, although short-lived, provides several interesting examples of mass airborne operations. After 1938, the Wehrmacht had an airborne force consisting of the 8th Fliergerdivision of paratroops and the glider-borne Assault Regiment (Sturmregiment) in the Luftwaffe (Air Force), and the 22nd (Infantry) Luftlandedivision, which was an air-landed unit, in the Army (Merglen, 1968, p. 29). This portion of my thesis will examine two large-scale German airborne operations of World War II: The Holland campaign of 1940, and the Battle of Crete in 1941.

1. The Holland Campaign: 1940

a. The Situation

The necessity to strike a quick and decisive blow against Holland was based on the German High Command's desire to put Holland out of the general fighting

quickly to secure their right flank, and to recommit those forces back into the fight against the Allied British, French, and Belgian forces (Merglen, 1968, p. 49).

b. The Mission (See Figure 5)

In order to accomplish this overarching objective, the mission that the airborne forces were given was twofold, and had both a political and strategic dimension. First, the airborne forces were to capture the key bridges at Moerkijk, Dordrecht, and Rotterdam to facilitate the movement of the advancing Panzer divisions into Rotterdam, capturing the Dutch High Command. Secondly, they were given the mission of capturing The Hague, Holland's capital city, and with it the Royal Family and the government. These missions were given to the 7th Fliegerdivision and the 22nd Airborne Infantry Division (Merglen, 1968, p. 49).

The German High Command had developed the operation down to the minutest detail. The 22nd Division, with the 47th and 65th Infantry Regiments, would land north of Fortress Holland in three zones around The Hague. They would then affect its capture and the surrender of the government. The 16th Infantry Regiment, operating in an airlanding role, would follow the 7th Fliegerdivision after they jumped in to capture the Rotterdam and Dordecht bridges intact, facilitating the advance of the Panzer units coming north from Aachen (Merglen, 1968, p. 37).

c. The Results

The German execution of their plan was a complete failure. The Dutch had been alerted to the upcoming possibility of a German airborne operation, and all surprise was lost. The first waves of the 22nd Division came down into withering infantry and artillery fire, and were unable to surround and capture The Hague. The 7th Fliegerdivision's airdrop was just as chaotic, as paratroopers missed their DZ's by miles, and had to fight their way off the landing sites towards their objectives. Many aircraft did not even drop their paratroopers, and returned instead still loaded to their airfields. The one salient characteristic during this stage of the operation would be confusion and chaos (Merglen, 1968, p. 37).

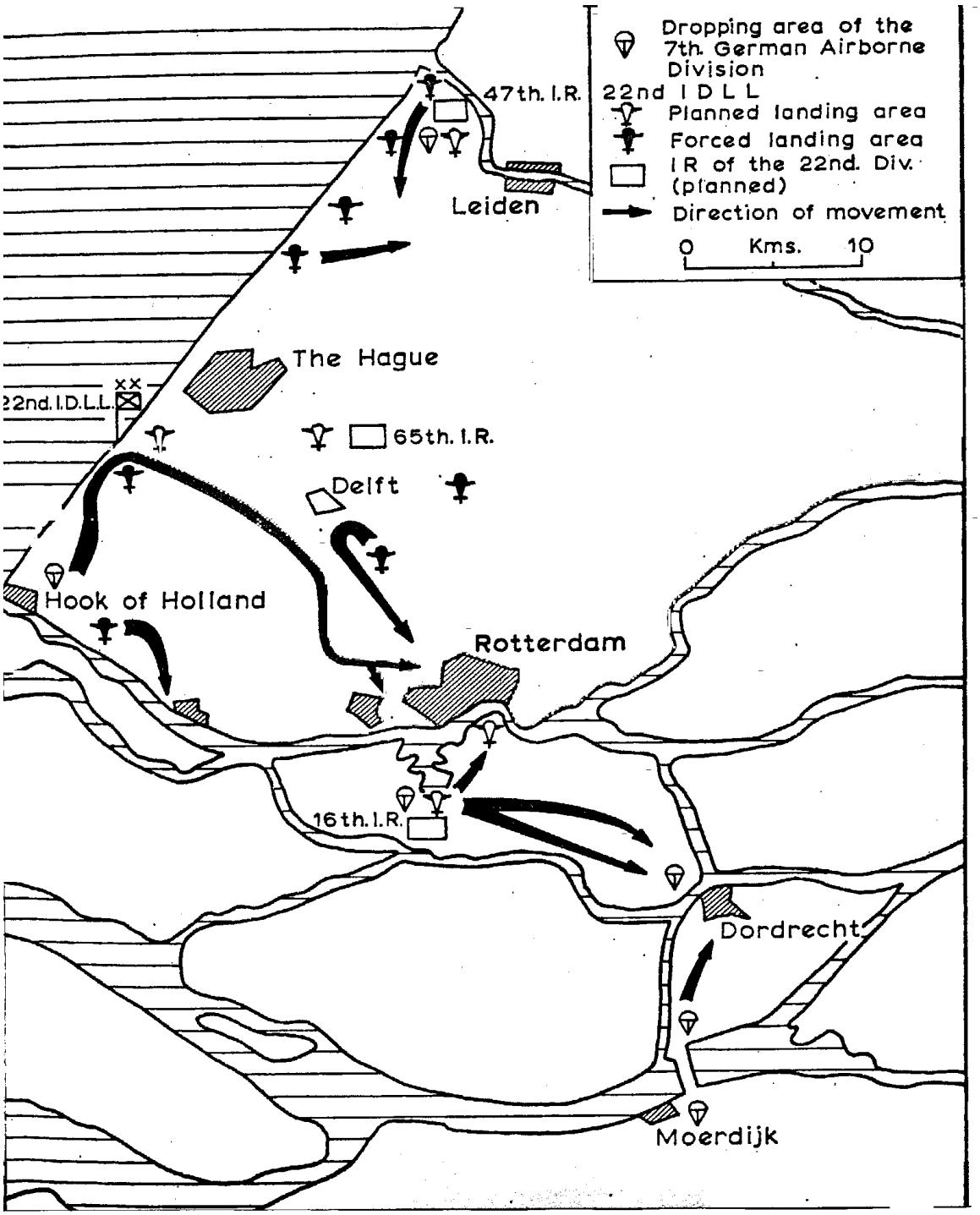


Figure 5. The German Invasion of Holland (Merglen, 1968, p. 39).

The 22nd Division would only airland 2,000 out of 5,000 troops slated to arrive on D-Day. The German High Command would change its strategy on 11 May after several days of fighting, ordering all units on the ground to make for Rotterdam. On

May 13, the 9th Panzerdivision linked up with the soldiers of the 7th Airborne and 22nd Infantry Divisions outside Rotterdam. The next day the city would capitulate, and the defeat of Holland was accomplished (Merglen, 1968, pp. 37-38). With the failure of the German airborne forces to capture The Hague, the Royal Family and the Dutch government were able to flee to England, and establish a government-in-exile.

Losses for the airborne troopers during this operation were extremely high. Of the 2,000 soldiers of the 22nd Division who were airlanded, 42% of the officers and 28% of the NCO's and enlisted were listed as casualties in the fighting. 90% of the JU-52s used to airdrop and airland the airborne forces in the first wave would not return (Merglen, 1968, p. 38).

I would have to rate this operation as a tactical failure, but a strategic success. The most critical objective, the capture of the Royal Family and the Dutch government, was not accomplished. There were successes though, both at the tactical and strategic levels. Three Dutch divisions had been pinned down during those three critical days, and Holland was quickly removed from the fighting as a threat to the German right flank as they advanced into France. The Dutch High Command had been thrown into confusion and completely demoralized, and the mental panic had a paralyzing effect on the Government. And although the costs in men and equipment were high, I would say that the German High Command believed that the costs had been worth it. So, although the tactical aspects of this airborne operation might be considered a failure, it unquestionably provided a decisive contribution to the strategic success of the German military during the early days of WWII.

2. The Battle for Crete

The German invasion of Crete, Operation Mercury, would become the apex of German airborne operations in WWII. This operation would apply all of the lessons that the airborne units had learned from their previous operations in Norway, Holland, and mainland Greece. Although the island of Crete was captured, following this operation German airborne forces would never be used again in their traditional role. Instead, the airborne arm would fight as regular line infantry in Russia, France, Italy, and other sectors, until the war's conclusion.

a. The Situation

In the autumn of 1940, Hitler had begun laying the groundwork for Operation Barbarossa, the invasion of Russia, which was scheduled for May 1941. A key portion of that planning lay in the requirement to secure the German southern flank in the Balkans. During October 1940, Mussolini had attacked Greece without consulting Hitler, and as a consequence the British had occupied Crete. Hitler believed that a British force on Crete, one capable of bombing the invaluable oilfields at Ploesti, Rumania, was a threat he could ill afford, especially when large numbers of his forces were tied up in the fighting in Russia. In April 1941 the Germans attacked Yugoslavia and Greece, and in a few weeks had overrun both countries (Arquilla, 1996, p. 205). Hitler had already returned to planning the impending Russian invasion, but the Luftwaffe convinced him that the island of Crete still needed to be secured, and that it could be captured by a massive airborne assault. Hitler assented, and the Battle for Crete was begun (Weeks, 1978).

b. The Mission

The attack was originally scheduled for 15 May 1941, but due to supply and troop delays, was pushed back to 20 May 1941. The invasion was to be conducted by the German XI Air Corps, made up the 7th Parachute Division and the 22nd Airborne Division, and which also included all the required air transportation assets. Due to transportation issues that stranded the 22nd Division in Rumania, the 5th Mountain Division was assigned the airlanding and seaborne portion of the mission. Over 500 Ju-52 transport planes and 70 gliders would be used in the assault, while numerous fighter and ground attack aircraft would participate to limit British air support to the island garrison (Arquilla, 1996, p. 207).

The German plan was based on their experience in Holland, a plan that had been only partially successful. The entire plan centered on taking the airfields at Maleme, Retimo, and Heraklion, so that airlanded forces could reinforce the parachutists and expand the airheads (Arquilla, 1996, p. 211). On D-Day, the first wave of the invasion would be dropped around the airfield at Maleme (Force West). Force Center, also part of the first wave, was to jump in the vicinity of Canae, with the mission of

capturing the Cretan capital city, and securing the deep-water port located at Suda Bay. Also on D-Day, the second wave (Force East) would parachute in, with one regiment jumping onto each airfield at Retimo and Heraklion. Due to a lack of transport aircraft the assault had to be divided into two waves, each wave separated by an eight-hour time span. During those first crucial hours of the assault only 4,300 German paratroopers would face the combined allied force on the island. Once the airfields were secured, the 5th Mountain Division would begin their airlanding operation, which would then be followed by seaborne reinforcements of personnel and supplies (Weeks, 1978, p. 28).

The defenders of Crete posed a very significant obstacle to the achievement of the German airborne forces plans. The original garrison of 5,000 men, along with 30 light tanks, had been reinforced with a battalion of infantry, 20 tanks, and a battery of artillery from Egypt. More importantly, they had been reinforced by those troops evacuated from mainland Greece earlier, the 6th Australian and 2nd New Zealand divisions. In addition, approximately 10,000 Greeks would fight with the British. Overall, the Allied commander could count on almost 42,000 men to be prepared to repel the airborne invasion (Weeks, 1978, p. 26).

c. The Results

Almost from the beginning the airborne plan started to unravel. The allied forces were never surprised, and began taking the parachutists under fire as soon as they appeared. None of the first day's objectives was taken, with paratroopers cut off and surrounded at Maleme and Canae. The second wave arrived late to the fighting, and instead of dropping the parachutists in a massed-formation, they were dropped in small units into the action. Just as in the first wave, the paratroopers were pinned down and cut off at the airfields at Retimo and Heraklion. On the second day of fighting the German XI Airborne Corps commander, Colonel-General Student, adjusted his plan by sending the remaining parachute forces to Maleme, after the German forces there captured the airfield that morning. Due to misjudging how serious the German position was, the Allied commander pulled his forces back from Maleme, allowing the Germans to gain control of the airfield there. Shortly thereafter the first elements of the 5th Mountain Division began airlanding at the airfield (Weeks, 1978, p. 28-29). From this point on, while the fighting lasted for several more weeks, the result was never really in doubt.

The decision to pull back, allowing the Germans to gain control of the Maleme airfield and begin their reinforcement operations, sealed the fate of the defenders of Crete. From May 26 on, the primary Allied concern was the evacuation of as many forces from the island as possible.

The German losses on Crete were staggering. Out of the attacking force of 20,000 men, about 5,000 were dead, with another 2,500 wounded. All of the gliders and 170 valuable Junkers transports were completely destroyed, with another 50 aircraft critically damaged (Weeks, 1978, p. 30). The Allied forces had lost 16,853 men KIA, WIA, and MIA (8,200 British, 3,376 Australian, and 2,996 New Zealand army personnel, and 2,011 sailors of the Royal Navy) Nine British warships were sunk, 17 more extensively damaged, and 46 aircraft destroyed in support of the fighting and evacuation operations (Weeks, 1978, p. 30).

Although the island of Crete was successfully taken, and serious losses were inflicted on the Allied forces, I would still have to rate the operation as a failure, due to the high losses of men and material outweighing the mission's success. The airlift support that was used, and in many cases lost, to support this operation would have played a significant role in supporting German preparations and operations during Operation Barbarossa. The loss of manpower and equipment was so extensive that it would cause Hitler to forbid any further mass airborne operations until the end of the war, saying "The day of parachute troops is over" (Ryan, 1974, p. 38). And although the German Luftwaffe would maintain and expand their airborne units, they would fight extensively as ground forces in every major theater until the wars end.

C. THE RUSSIAN AIRBORNE EXPERIENCE

The first practical tests of airborne assault tactics were conducted by the Russians at Voronezh on 2 August 1930. The Soviet approach to airborne operations was different from that envisaged by the Allied forces. The Soviets envisioned a combined-arms force with its own trucks, motor vehicles, and artillery support, unlike the Western nations, who saw their airborne forces as light infantry with very little fire support and motor transport (Glantz, 1984, p. 5). It is interesting to note that although the USSR was the first nation to develop and field airborne forces, they also suffered some of the worst

losses and were the first to abandon their use during WWII, and have never used them in their traditional role to this day.

1. On the Dnepr: September, 1943

The Soviets conducted two mass airborne operations during WWII, the first at V'yazma in 1942, and their second and last in September 1943 during the Soviet advance to the Dnepr River (Glantz, 1984, p. 91). Although the Soviets would conduct a number of smaller airborne operations that were successful during the war, after the failures of both of these mass operations they have not conducted an operational drop since.

a. The Situation

The Soviet forces had begun counterattacking against the Germans in mid-July and August after having repulsed several major German attacks in a strategic defensive operation at Kursk in July 1943. Operation Kutzov, launched in mid-July, drove German forces from the Orel salient. Operation Rumyantsev, began in early August, smashed the German 4th Panzer Army and Operational Group Kempf, and severely mauled German mobile operational reserves. By late August, the Soviets had captured Kharkov and begun a broad front pursuit of the German forces withdrawing toward the Dnepr River line (Glantz, 1984, p. 91).

b. The Mission (See Figure 6)

The airborne corps' mission was to secure a bridgehead on the right bank of the Dnepr River near Velikyi Bukrin and to widen and fortify the expanded bridgehead in support of the fronts continuing advance. To accomplish this mission, the paratroopers were to seize Lipovyi Rog, Makedony, and Stepantsy, and prevent German counterattacks from penetrating the west bank of the Dnepr in the sector from Kanev to Traktomirov (Glantz, 1984, p. 94).

The 3rd Guards Airborne Brigade's mission was to land near Tulitsy, Beresnyagi, Lazurtsy, and Potaptsy. They would then secure a defensive line running from Lipovyi Rog through Madedony and Sinyavka to Kozarovka, and hold it until the approach of the 40th Army. The 5th Guards Airborne Brigade's mission was to land west of Kanev near Kovali, Kostyanets, and Trostynets, then secure a defensive line from Gorkavshchina through Stepantsy to Sutniki, holding the line until Soviet forces advanced from Buchak, Selishche, and Kanev (Glantz, 1984, p. 96). The 1st Guards

Airborne Brigade would act as the operational reserve, joining the other two brigades on either the second or third night of the operation. The operation was scheduled to occur over two nights, with the 3rd and 5th Guards Airborne brigades jumping on the first night, and the 1st Guards Airborne Brigade jumping in the second night. Altogether, the operation would require 50 PS-84 and 150 IL-4/B-25 aircraft and 45 gliders, with each aircraft making two to three sorties per night in order to airdrop each brigade (Glantz, 1984, p. 95).

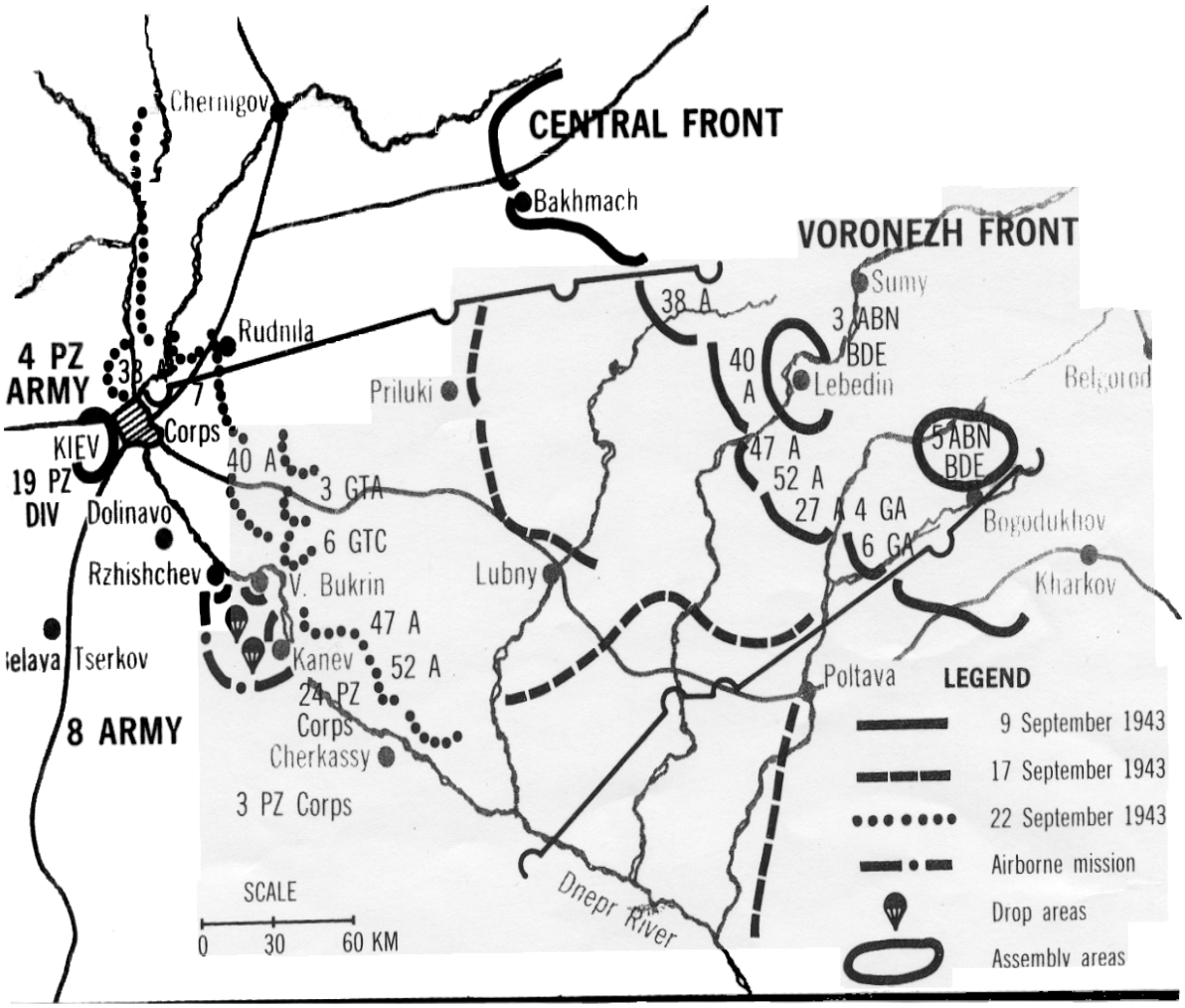


Figure 6. Soviet Airborne Operations along the Dnepr River (Glantz, 1984, p. 92).

c. The Results

On September 24, 1943, the 3rd and 5th Guards Airborne Brigades began their airdrops across the Dnepr River. In a total of 298 sorties, instead of the planned

500, 3,050 paratroopers of the 3rd Brigade and 1,525 from the 5th Brigade were dropped onto their DZs. It would not be until the following day, the 25th, that the remainder of the 3rd Brigade would be parachuted into the objective areas. This still left close to 30% of the force, mostly paratroopers from 5th Brigade, still at the assembly airfields (Glantz,1984, p. 100). Due partially to heavy enemy antiaircraft fire, and their own inaccurate drop techniques, the airborne forces were scattered widely over the region during this night jump. Thirteen aircraft would return without even dropping their passengers. Instead of the assault force landing within the planned ten by fourteen kilometer area, they found themselves disbursed over an area thirty by ninety kilometers in size, and infested with Germans (Glantz, 1984, p. 100). Due to these initial problems with the operation, the remainder of the 5th Brigade and the 1st Brigade were not dropped.

Not only was the initial drop a disaster, but the Russian paratroopers were never able to get organized on the ground as the Germans quickly moved to attack them. Throughout the night German units dispatched the fragmented Russian airborne units, in one area alone accounting for 692 KIA and 209 prisoners. By 26 September the Germans considered the mop-up of the airborne forces completed, since only remnants remained operating with partisan forces (Glantz, 1984, pp. 102-103). Of the 4,575 paratroopers dropped on D-Day, only 2,300 men remained to execute whatever damage they could against the Germans (Glantz, 1984, p. 103).

More than any other operation examined during these case studies, the Soviet airborne operation to cross the Dnepr River was the greatest failure, providing not even the most minimal tactical or strategic gain. The attempt to establish a bridgehead for the advancing ground units was completely useless, and the Germans quickly ensured that whatever airborne forces had dropped into this area were quickly mopped up. To sum up the operation, not a single objective was achieved, and the price in lives and aircraft was extremely costly. It is no wonder then that the Soviets have never conducted another mass airborne operation, because the Dnepr operation was a classic case of how not to conduct an airborne operation. The Soviets were successful in conducting a number of smaller airborne operations throughout WWII, primarily establishing support for partisan operations and airdrops against German rear areas.

D. THE ISRAELI AIRBORNE EXPERIENCE

I have included the Israeli Defense Force's (IDF) airborne experience in this chapter because of the depth of wartime experience that the Israelis have garnered. The IDF's airborne arm has always played an integral role in their military operations, but in only one of their major conflicts (The Sinai Campaign: 1956), were their forces used in the traditional airborne role. In all other instances, the airborne forces were used as shock troops, or as reinforcements in an emerging crisis.

1. The Sinai Campaign (1956)

a. The Situation

The Sinai Campaign, known in Israel as Operation Kadesh, began on October 29, 1956. Egypt's President Nasser made two declarations that contributed to war between Israel and Egypt. First, he announced a huge arms transaction with the communist block. Secondly, Nasser decided to nationalize the Suez Canal in July 1956. This action resulted in a military coalition of French, British, and Israeli forces, all determined to protect their national interests in the region (Green, 1990, p. 35).

b. The Mission (See Figure 7)

The design for Operation Kadesh had three major strategic objectives: (1) the destruction of fedayeen bases in the Gaza Strip and along the Sinai frontier; (2) elimination of Egyptian offensive potential by the demolition of her advanced bases and logistics infrastructure in the Sinai; and (3) the opening of the Gulf of Aqaba to Israeli shipping (Rothenberg, 1979, p. 105).

The IDF forces allocated for Operation Kadesh were limited. They included one armored brigade, two mechanized brigades, one paratroop brigade, and six infantry brigades. The remaining IDF brigades were deployed against Syria and Jordan should either decide to enter the war (Green, 1990, p. 39).

During the first phase of this operation an airborne battalion of 395 men would drop in at Parker's Memorial, which is just east of Mitla Pass and only 45 miles from the canal-zone. This airdrop was to serve as a diversion to the Egyptians and also as a signal to the British and French supporting this operation to begin their operations. Mounted on personnel carriers and supported by tanks, the remainder of the 202nd

Airborne Brigade would advance across the central Sinai towards Mitla to reinforce the battalion there. Airborne forces were also to be used in the pursuit and exploitation of Egyptian forces (Rothenberg, 1979, p. 106).

c. The Results

Overall, the airborne forces did accomplish their objectives, while only sustaining minimal casualties. The drop at Parker's Memorial went well, but it was not until the remainder of the brigade arrived by ground transportation that it was able to drive the Egyptians from Mitla Pass, opening up the most advantageous route out of the central Sinai to the Suez Canal. This was partially due to the lack of transport aircraft that the Israelis had at their disposal.

Airborne forces would be used very effectively as the operation moved into the exploitation phase, when they were used to take key enemy positions. On 2 November, a paratroop detachment was dropped on the last remaining Egyptian airfield in the Sinai at Tor, and on the following day a battalion of the 202nd moved overland from Mitla Pass to Ras Suder and the Abu Rudeis oilfields. Also on 3 November, the paratroop detachment that had dropped onto Tor moved south and captured Sharm el Sheik (Rothenberg, 1979, p. 109). One aspect of these exploitation operations that should be noted was the relatively small size of the airborne forces used to accomplish these follow-on tasks.

The overall human cost to the Israelis during the Sinai Campaign were 172 KIA and 700 WIA. Of these, paratroopers of the 2nd Airborne Brigade would contribute 38 KIA and 120 WIA, while killing 260 of the enemy, all at Mitla Pass (Eshel, 1984, p. 70). Throughout the fighting the Egyptians would lose over 3,000 men, with over 5,000 more taken prisoner (Schiff, 1985, p. 93).

In the open desert, with long distances between key terrain, it seems like the perfect location for the use of airborne forces to take and secure key objectives until the arrival of friendly ground forces. The Israelis experienced some degree of success in this regard, although that success was limited by the few airlift assets that were at their disposal. With more airlift capability, their early airborne successes could have been even more significant, and contributed more to the overall victory. It is surprising

therefore, that the Israelis never again used their airborne forces in other than regular infantry functions during the remaining conflicts that they would be engaged in.

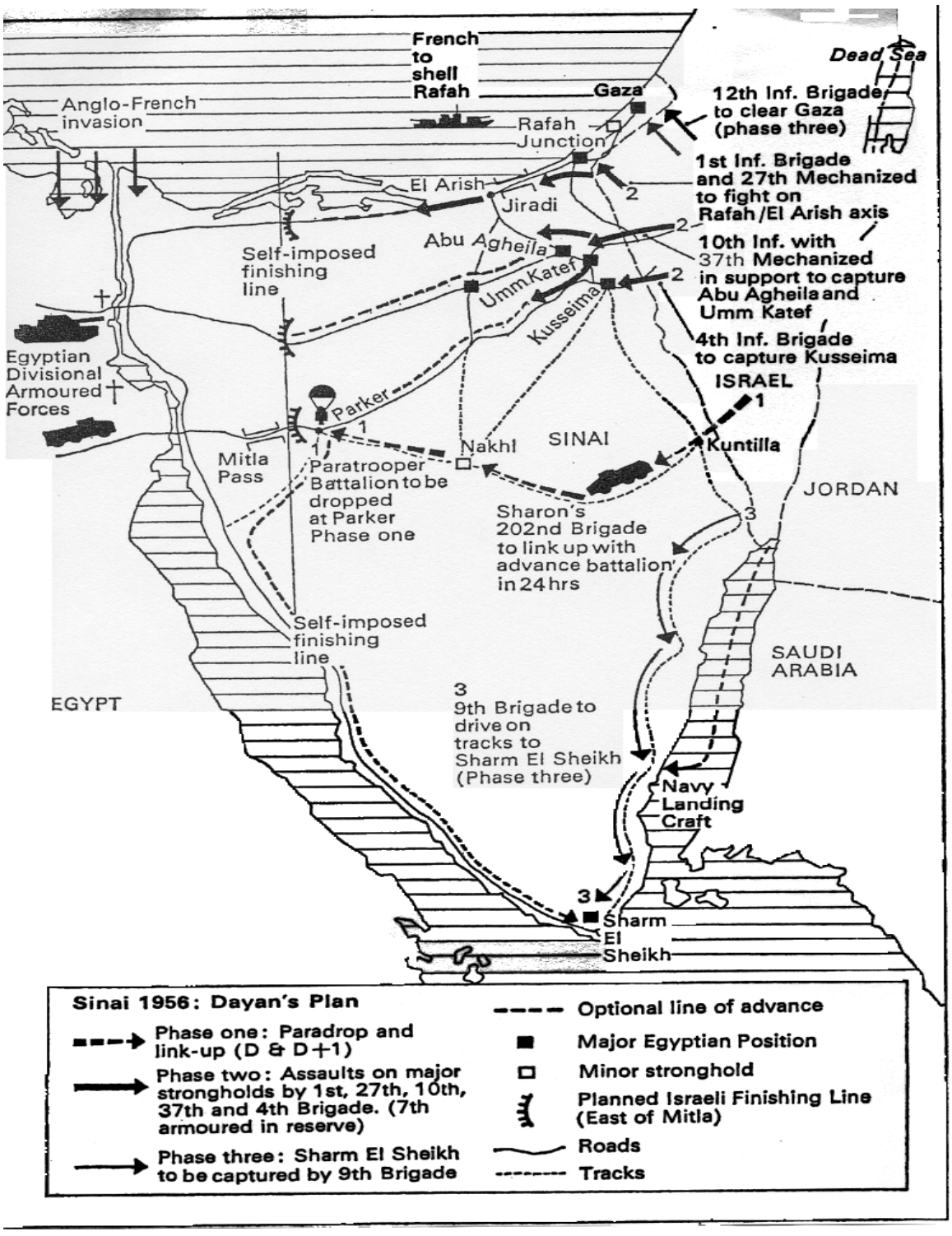

French to shell Rafah
Gaza
Dead Sea
Anglo-French invasion
Rafah Junction
12th Inf. Brigade to clear Gaza (phase three)
1st Inf. Brigade and 27th Mechanized to fight on Rafah/El Arish axis
El Arish
Jiradi
Abu Agheila
10th Inf. with 37th Mechanized in support to capture Abu Agheila and Umm Katef
Self-imposed finishing line
Umm Katef
Kusseima
4th Inf. Brigade to capture Kusseima
Egyptian Divisional Armoured Forces
ISRAEL
Parker
Nakhl
SINAI
Kuntilla
Mitla Pass
Paratrooper Battalion to be dropped at Parker Phase one
JORDAN
Sharon's 202nd Brigade to link up with advance battalion in 24 hrs
Self-imposed finishing line
SAUDI ARABIA
EGYPT
9th Brigade to drive on tracks to Sharm El Sheikh (Phase three)
Navy Landing Craft
Sharm El Sheikh
Sinai 1956: Dayan's Plan
Phase one: Paradrop and link-up (D & D+1)
Phase two: Assaults on major strongholds by 1st, 27th, 10th, 37th and 4th Brigade. (7th armoured in reserve)
Phase three: Sharm El Sheikh to be captured by 9th Brigade
Optional line of advance
Major Egyptian Position
Minor stronghold
Planned Israeli Finishing Line (East of Mitla)
Roads
Tracks

Figure 7. Israeli Airborne Operations in the Sinai, 1956 (Green, 1990, p. 38).

E. THE JAPANESE AIRBORNE EXPERIENCE: THE NETHERLANDS EAST INDIES CAMPAIGN OF 1942

One of the more outstanding features of the first phase of the War in the Pacific during World War II was the rapidity and the magnitude with which the Japanese Imperial Forces were able to invade and conquer Southeast Asia. In less than four months over 1 million square miles of territory with a population of 130 million had been seized (Merglen, 1968, p. 86). As part of this initial conquest, the Imperial Japanese Army and Navy (IJA and IJN) did use airborne forces successfully in several operations. Although the forces used were not of brigade or larger in size, I have included them as examples of the potential tactical and strategic value of airborne forces used in a jungle environment.

By the end of 1941, the IJA and the IJN had fielded their airborne forces. The IJA had organized a brigade of paratroopers, grouping together command, signals, and engineer units, a parachute regiment of three rifle and one machine gun companies, and an organic air transport regiment comprising four squadrons of Mitsubishi 112 aircraft (Merglen, 1968, p. 87). The special naval airborne landing forces were formed around a battalion of three rifle companies.

Initial exercises were held in January, 1941, and three basic missions were developed as part of their airborne doctrine: (1) parachute landings of sabotage sections in enemy territory, (2) the dropping of two sections, supported by fighter aircraft, to prepare a landing strip for the arrival of an airborne infantry battalion, and (3) the landing by parachute of a reinforced company to secure an important piece of terrain (Merglen, 1968, p. 87).

1. Manado (Celebes) 1942

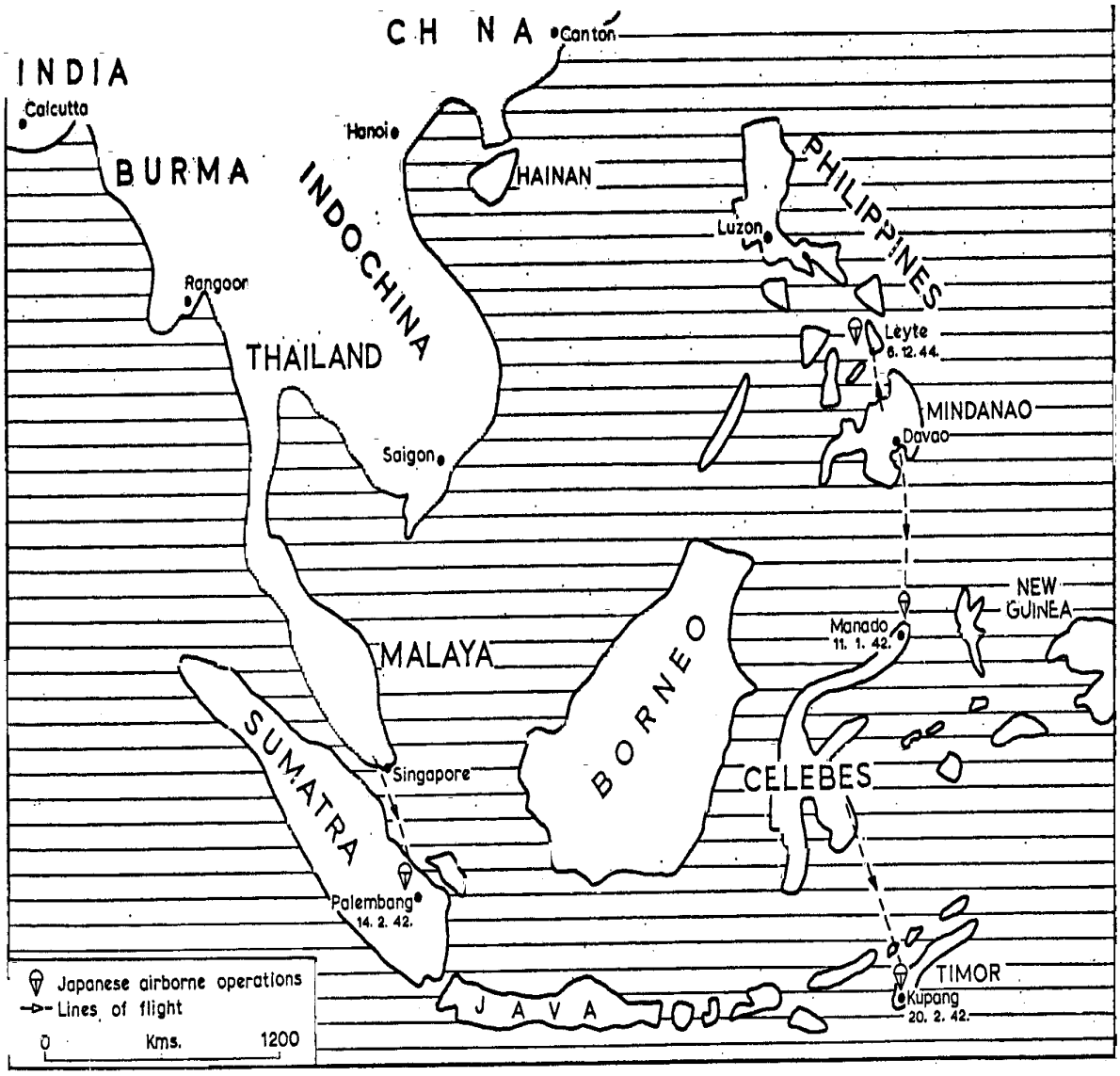
a. The Situation

As part of their continued drive to the south and the expansion of their Greater East Asian Co-Prosperity Sphere, on Jan. 11, 1942, the Japanese launched an attack on the Netherlands East Indies, striking simultaneously at Borneo and Celebes.

b. The Mission (See Figure 8)

Airborne operations conducted on Celebes were aimed at securing the airfield south of Manado, and supporting the amphibious landings on the island. 334

parachutists of the Yokosuka 1st Special Naval Group, who would be dropped by 28 transport planes on Manado airfield on 11 Jan would conduct the mission. They would be reinforced the following day with an additional 185 paratroopers Merglen, 1968, p. 88).



IO SOUTH-EAST ASIA

Figure 8. Japanese Operations in the Netherlands East Indies (Merglen, 1968, p. 89).

c. The Results

This operation was a resounding success. With few losses to the airborne forces employed, by the evening of Jan 12th the Japanese were in control of the entire region surrounding the Manado airfield. This first Japanese airborne attack completely surprised the Dutch garrison, which numbered 1500 strong, and also threatened the defenders on the coast on the other side of the island. When the amphibiously landed ground forces linked up with the paratroopers, the fight for the island was completed.

The strategic result of the capture of the Manado airfield was enormous. The airfield was immediately put into use by Japanese fighter planes, extending their range of action a further 250 miles south (Merglen, 1968, p. 88), supporting the continued advance of the Japanese Imperial forces. With a very small expenditure of forces, airdropped with great precision on a strategic target, the Japanese were able to continue their advance against the Allied forces and maintained the initiative in the Pacific.

2. Palembang (Sumatra) 1942

a. The Situation

In their continuing drive to conquer the Pacific, the Japanese launched their next attack against the island of Sumatra. This assault was both for strategic military as well as economic reasons, as the Dutch maintained a large oil refinery at Palembang. This access to oil was critical to the military effort, as well as to production on the main Japanese islands. The defense of the airfields and of Palembang was conducted by approximately 1,000 Dutch, British, and Australian troops, augmented with fifteen anti-aircraft guns. 550 men, armed with several anti-aircraft guns and machine guns, guarded the oil refineries (Merglen, 1968, p. 90).

b. The Mission

The Japanese invasion of Sumatra began on February 14, 1942. The 1st Parachutist Brigade airborne attack preceded the main invasion, and was designed to take by surprise the two Palembang airfields, and to prevent the destruction of the oil refineries in the area. The paratroopers would then be reinforced by the 38th Infantry Division who would link up with them within 24 hours of their attack.

The Japanese airborne unit conducting the attack, the 1st Parachute Brigade, was really only regimental in size, consisting of the 2nd Parachute regiment and

a regiment of transport aircraft. It was broken down into two detachments for this assault. The First detachment was comprised of the Battle HQ's, 2nd Company of the 2nd Parachute Regiment, elements of the machine-gun and engineer companies, a signals section, and overall numbered approximately 460 men. The Second Detachment was comprised of 1st Company of the 2nd Parachute Regiment, elements of the machine-gun company, and numbered approximately 560 men (Merglen, 1968, p. 90).

c. The Results

This operation was enormously successful in relation to the number of Japanese forces that were used in its execution. The Japanese parachutists of the 1st Detachment landed directly on the Palembang airfield, and at the end of the first day of fighting had occupied it entirely, while pushing the Allied defenders back towards Palembang. The 2nd Detachment managed to capture one refinery and to prevent the destruction of the second. A third detachment of 100 parachutists jumped into the conquered airfield at 1330 hrs, and with these reinforcements, the 1st Detachment advanced on and succeeded in capturing Palembang, while the 2nd Detachment finished occupying the refineries. During the night of the 15th/16th, after rumors had reached the Allies regarding Japanese amphibious landings on the coast, increasing Japanese air superiority, and a shortage of ammunition, allied forces made a withdrawal southeastwards (Merglen, 1968, p. 92).

The Japanese airborne success on Palembang was not only tactical – the capture of an airfield, and the safeguarding of the oil refineries – but also strategic. The hasty evacuation of the island of Sumatra within a few days of the invasion was the outcome of this surprise blow at the center of the Dutch resistance. The Dutch command in Sumatra would seem not to have learned the lesson of the German airborne attack at the heart of Holland on May 10, 1940, which had shattered all defensive organization, threw the Dutch Army off balance and had demoralized the nation (Merglen, 1968, p. 92).

3. Timor, 1942

a. Situation

Further Japanese advances continued in the Molucca Sea, as they attacked the island of Timor on Feb. 25, 1942. A few companies of Dutch and Australian troops provided Timor's defense (Merglen, 1968).

b. Mission

As part of a combined attack on Feb. 25th, two battalions of paratroopers of the Yokosuka Special Naval Group (approximately 660 soldiers) would drop on two consecutive days onto the Penfoei airfield, 15 miles to the east of Kupang. In coordination with the amphibiously landed force, the paratroopers were to block the route of retreat of the Dutch/Australian forces, and to secure the airfield (Merglen, 1968, p. 92, 94).

c. Results

This operation provided the Japanese a success that was again completely out of proportion to the limited number of forces used in its execution. Following a similar patter, the results of this combined operation were both tactical and strategic in nature. Tactically, the weak Dutch and Australian units were quickly captured as they attempted to withdraw towards the center of the island, their main route being blocked by the paratroopers. Strategically, the seizure of the Penfoei airfield effectively cut the 1400-mile air route between Australia and Japan. The capture of Timor also pierced the flank of the Malay Barrier, allowing the Japanese to directly threaten the Australian mainland. Its capture also interposed Japanese forces between the Allies, separating the British from the Americans. By March 9th the entire Netherlands East Indies had surrendered to the Japanese, proving a grave defeat for the Allies in the Pacific (Merglen, 1968, p. 94).

F. CONCLUSION

After reviewing the first nine case studies, the final conclusion to be drawn from these mass airborne operations is a history of mixed results (See Table 2).

Airborne Operation	Result
Sicily	Success
Normandy	Success
Market-Garden	Failure
Rhine River	Success
Sukchon	Failure
Munsan-ni	Success
Holland (Germany)	Tactical Failure/Strategic Success
Crete	Strategic Success/Unacceptable Costs
Dnepr River	Failure
Sinai	Success
Japanese Opns.	Success

Table 2. Mass Airborne Operation Results.

To summarize, the U.S. operations on Sicily, Normandy, the Rhine River Crossing, and at Munsan-ni were successful. Operation Market-Garden and the Sukchon operation were failures. The German operation into Holland failed to accomplish several of its missions, but was successful in removing Holland from the war, and can be judged a strategic success. The operation to take Crete, while successful, was successful at such a high cost that it must be listed as a failure. Although only one case study was presented here, both of the Soviet mass airborne operations were dismal failures. For a force that its supporters envisioned with great potential, the reality of conducting those operations has been quite different. A completely different result can be seen when reviewing the airborne operations conducted at smaller levels. Both the Israeli and Japanese cases lend credence to the concept that the future of airborne operations might be found in utilizing smaller forces, employing them much in the same way that Special Operations soldiers were used in Afghanistan.

Not only are the tactical and strategic results from these mass operations mixed, but the expenditure in men, aircraft, and supplies hardly seems to warrant their continuation, especially when reviewed in light of what other operations had to be postponed or halted due to a lack of adequate airlift support while the mass airborne operation was ongoing. In case after case, the conduct of the airborne operation almost always superseded the ongoing ground operations that they were meant to support. In our current force structure, each unit within the force must be able to conduct operations

simultaneously with other ongoing operations, creating a synergistic effect that overwhelms the enemy's ability to respond. If conducting a mass airborne operation in today's environment were to critically interfere with other operations, the overall impact would be seriously detrimental to our ability to accomplish the overall mission, especially in an MRC scenario. That question, whether or not a mass airborne operation would be detrimental to the ability of the USAF to accomplish their airlift mission, is the focus of Chapter II.

III. AIRLIFT OPERATIONS AND THEIR ROLE IN AIRBORNE OPERATIONS

A. INTRODUCTION

In Chapter I, I analyzed brigade/regiment and larger sized airborne operations conducted by nations around the globe from WWII to the present. This analysis centered on a review of the missions that they were assigned during the operation, their effectiveness in terms of overall mission success, and the losses in men and material that these airborne and air forces suffered in conducting their missions. This chapter examines another aspect of mass airborne operations that significantly affects planners and policy makers at all levels: the actual capability of the U.S. Air Force (USAF) to provide the requisite support necessary to conduct and sustain such operations. This chapter follows the chain of analysis by asking this critical question of future airborne operations: Does USAF have the airlift capability to support fully overlapping regional contingencies as outlined by the current Quadrennial Defense Review (QDR), while maintaining its other global commitments, and still remain capable of providing the aircraft necessary to conduct and sustain a major airborne operation? This question is a critical segment of the equation when attempting to determine an answer to the main question of my thesis.

1. Airlift as an Instrument of Force Projection

Although modern airpower is in itself a relatively new component of the modern battlefield, the air transportation arm is even newer. Power projection was traditionally accomplished using land and sea deployments, and even though technological advances during this century have made the movement by land, rail, and sea speedier and more efficient, they still remain too slow, too restricted by geographical constraints, and too susceptible to enemy interception. It was these limitations and the increasing awareness of what airlift could offer in terms of speed, reach, and capacity that spurred the development and growth of air transportation. The U.S. quickly realized the importance of this component in WWII, as "the USA's Air Transport Command, which was only formed in June 1942, was by July 1945 carrying 275,000 passengers and flying 100,000 tons of cargo per month on a worldwide network of routes using a fleet of 3,700 aircraft"

(Chapman, 1989, pp. 1-2). As the U.S. grew into its role as a world superpower following WWII, it quickly understood that its military forces' full potential would not be realized unless they could be brought to bear wherever and whenever needed. In the volatile international situation that exists today, reaction speed to a developing crisis is absolutely critical to the U.S.'s credibility. The vital importance of airlift to the U.S.'s policies of deterrence and intervention cannot be overemphasized. It is clear that the U.S. is firmly committed to the notion that an early deployment of even a limited force can often defuse or stabilize a potentially dangerous or deteriorating situation, while simultaneously sending a strong political signal to any third parties concerned (Chapman, 1989, p. 8).

Worldwide mobility for U.S. military forces is a fundamental precept in our nation's security strategy of "engagement and enlargement", and our "national security strategy depends on decisive air mobility forces to protect America's vital global interests" (Long, 1997, p. 1). As our nation has moved away from forward basing overseas, we must face the mobility demands that a CONUS-based, expeditionary military force presents. To that end, airlift delivers the majority of the initial time-critical forces and war material to regional hot spots in support of expeditionary operations (Long, 1997, p. 2). Airlift operations in the role of strategic lift have gained the predominant role in the projection of military and political power, especially when it is necessary to exert such pressure over substantial distances and at short notice (Chapman, 1989, p. 16). Airlift and air refueling forces provide tremendous speed and flexibility in deploying, employing, and sustaining America's military forces (*U.S. Air Force Issues Book. 1997*). Often, it will be the case that the success or failure of a military operation will hinge upon the speed with which the required forces can be moved into position. It is this factor above all others that underlines the importance of an airlift capability (Chapman, 1989, p. 12).

2. Overview

I will begin this chapter by reviewing current airlift requirements, as determined in the latest QDR and several requirements studies, and using these figures as a baseline to determine if USAF has the capability to conduct its primary wartime mission. After determining the total airlift capacity that USAF can provide, I will then examine the

largest, and most recent, peacetime drop of U.S. paratroopers, Operation Purple Dragon, to determine the current impact a mass airborne operation would have on USAF's total lift capability.

3. Current Air Force Requirements

The cost of buying, operating, and maintaining a fleet of modern strategic and theater airlifters is significant, and beyond the resources of all but the most powerful of nations. For example, USAF is thought to have paid some $150m (at 1985 prices) for each of its 50 C-5B aircraft, a total of $7.5b even before life cycle costs are added to the final cost (Chapman, 1989, p. 16). That cost is further amplified when the number of aircraft necessary to satisfy the airlift requirement is prodigious, as is the case with the United States. The Mobility Requirements Study/Bottom-Up Review Update (MRS/BURU) conducted in 1996, set the airlift requirement for a two Major Regional Contingency (MRC) scenario at 49-52 million-ton miles per day (MTM/D). In the early stages of a deployment, more than 70% of this airlift requirement is for oversized (fits primarily on military aircraft) and outsized (fits only on the C-17 and C-5 aircraft) cargo. In the first weeks of an MRC, an estimated 60% of the cargo will be oversized, 24% bulk, and 16% outsized. Fully mobilized, the Active and Air Reserve components contribute approximately 61% and the Civil Reserve Air Fleet (CRAF) provides 39% of total airlift capability (*U.S. Air Force Issues Book. 1997*). AMC's current force structure is not only based on the requirements for a two-MRC scenario, but also on other unique military requirements such as strategic brigade airdrop, lesser regional contingencies, and peace keeping/peace enforcement support. I believe it is necessary to review in further detail the requirements that USAF faces to better understand the complexity of their primary mission.

4. Strategic Airlift Requirements

The requirements necessary for mission success should always be the driving factor behind determining force capabilities. For USAF, that translates into maintaining an airlift capability sufficient to support the current QDR's goal of executing overlapping regional contingencies. To reach that endstate, airlift planners have two tasks: 1) estimate present capabilities and 2) predict future requirements. Resource planning is the most appropriate tool to use when attempting to forecast long-range strategic

requirements. Resource planning focuses on the two areas mentioned above: capabilities and requirements. To determine the airlift force's ability to meet lift demand (or force closure) USAF uses capability assessments. From these assessments, capabilities-based plans focus on programmed equipment that is currently available or expected to be available at the end of a specified planning period. Although this is a valid approach to resource planning, strategic airlift requirements must also be examined since users within DOD pose demands on airlift resources for mobility needs (Long, 1997, p. 6).

As compared to capability assessments, requirements studies estimate the assets needed to meet a given force closure; in other words, ensuring the arrival of the required forces at the designated time. Although the specific focus on strategic lift requirement issues is AMC's responsibility, U.S. Transportation Command (USTRANSCOM), in its role as a Unified Command, determines needs as well, and plays an integral role in this regard. Requirement studies produce valuable insights by incorporating both historical sources and current data/trends to estimate present and future demands on strategic airlift (Long, 1997, p. 6).

5. Requirements Studies

Congressional interest in U.S. strategic mobility requirements has led to three separate studies on the subject since 1982. These analyses attempted to shed light on possible shortfalls within the airlift, sealift, and prepositioning triad for our national military strategy – fighting two near-simultaneous MRCs. In the first study, the Congressionally Mandated Mobility Study (CMMS) of 1982, the JCS estimated airlift requirements to be as high as 150 million-ton-miles/day (MTM/D) – a figure that went well beyond USAF's capabilities (Long, 1997, p. 7). Million ton-miles per day (MTM/D) is a commonly accepted measure of performance across the transportation industry. It reflects how much cargo can be delivered over a given distance, in a given period of time (Erwin, 2001, p. 1).

A second study, the Revised Intertheater Mobility Study (RIMS), followed the CMMS. RIMS focused on a Middle East global war scenario, but it made overly optimistic assumptions with regard to infrastructure and host nation support, and the results were never published (Long, 1997, p. 7).

Finally, the Director of Force Structure, Resources, and Assessment (J-8) Joint Staff undertook the Mobility Requirements Study (MRS) in 1992. The objective of this study was to predict and evaluate mobility requirements for the year 1999, and to produce a methodology to reach those requirements. Estimates from this study indicated that nearly 60 MTM/D would be required to meet contingency taskings. Other sources place the requirement near 57 MTM/D, lending even greater credibility to the MRS figure of 60 MTM/D (Long, 1997, p. 7).

Following the MRS, the MRS/BURU and a subsequent Army study of its ability to preposition war material established the cargo airlift requirement at 49.7 MTM/D. The 49.7 MTM/D figure and the MRS/BURU are instruments that AMC currently uses to shape its strategic airlift forces (Long, 1997, p. 8). This figure will undoubtedly be adjusted in light of the new strategic guidance issued in the current QDR, which only requires the military to be able to fight overlapping regional contingencies, rather than the two near-simultaneous MRCs of the past. Currently, Air Force General Charles T. Robertson, Jr., chief of the U.S. Transportation Command Strategic airlift, said "we are about 5 MTM/D short." And that shortfall is expected to double to 10 MTM/D because a new study on future air mobility needs, called MRS-2005, will set the U.S. strategic airlift requirement at more than 54 MTM/D (Erwin, 2001, p. 1). All of these studies are an indication that trying to determine exactly how much airlift is required to fulfill their mission is a longstanding problem for USAF. To further refine their planning figures USAF also uses other methods, which will be discussed in greater detail in the next section.

A second tool used to determine airlift requirements, in addition to the MTM/D method that AMC uses, is a cumulative cargo requirements projection model. This model projects required tons of war material for airlift over a specific timeline. The advantage of this model is that it does not place a specific number on airlift requirements per day – since demand for airlift varies based on user requirements throughout a contingency (Long, 1997, p. 8).

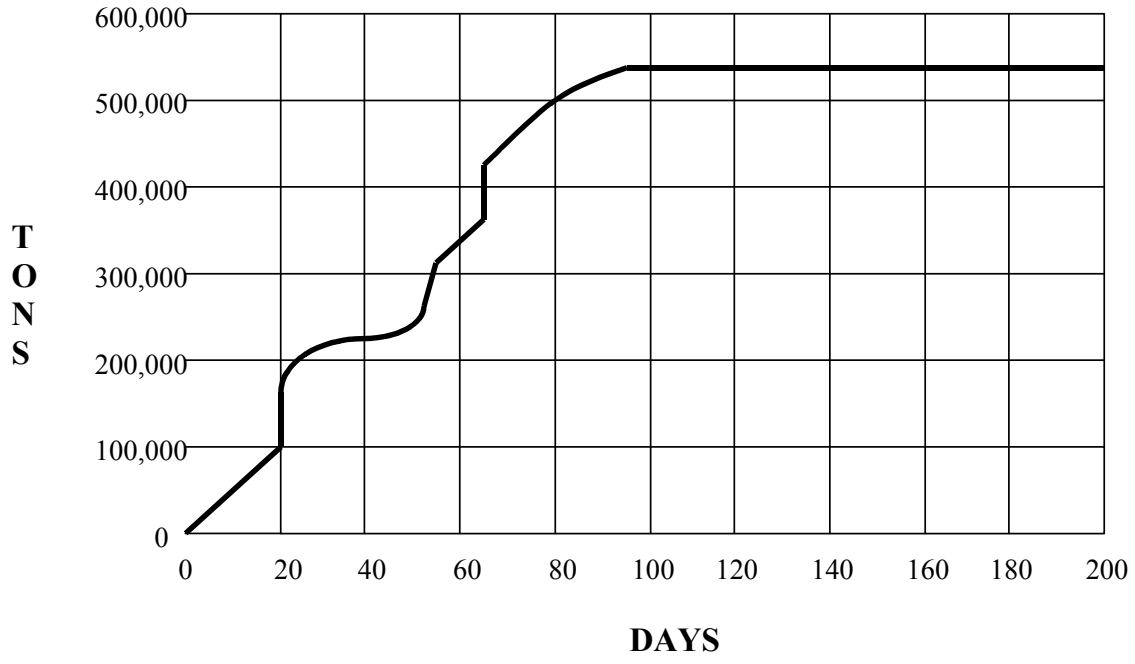


Figure 9. Cumulative Airlift Cargo Requirement (From Long, 1997, p. 8).

Figure 9 shows the current cargo requirements chart extracted from the 1996 Air Mobility Master Plan (AMMP). The utility of this graph lies in its ability to indicate the crucial time periods for the flow of supplies into a contingency theater. The initial buildup of forces (days 1-14) on the cargo requirement plot is shallow because the assets to facilitate airlift operations are being positioned during this phase. Once those assets are in place, lift requirements expand (Long, 1997, p. 8).

From day 15 to day 21, airlift assets are moving combat units into theater. These forces, the Air Force fighter wings, Marine expeditionary brigades, and Army light divisions, will require the entire U.S. military airlift capability in order to position themselves within this timeframe. This effort results in approximately 100,000 tons of cargo being transported within a 7-day period. To put this into better perspective from an airframe utilization standpoint, it would take 400 C-5 sorties and 600 C-17 sorties to move one Army division. Given a fleet of 120 C-17s, which does not currently exist, that is over five roundtrips from CONUS bases to move that division. These figures are for only one division, and do not include moving any other warfighting resources (Long, 1997, p. 9).

Days 50 through 70 mark another high-demand period for strategic airlift. Requirements jump by nearly 200,000 tons during this 20-day period. Army heavy divisions, more Marine expeditionary forces, and additional Air Force combat squadrons require the bulk of the airlift. It is during both of these peak demand times that our lift capability is severely strained (Long, 1997, p. 9).

The main point of the aforementioned studies is that it is very difficult to develop consistent data on projected requirements for contingency scenarios. This will continue to be problem in the future as requirements continue to change. To counter the effects of unpredictable logistical problems, airlift planners and forecasters must be conservative in their estimates of wartime strategic requirements (Long, 1997). Keeping this range of potential airlift requirements in mind, I believe that the problem of executing and sustaining a mass airborne operation while trying to maintain the required amount of logistical support for the overall operation becomes a more complex issue than originally believed.

6. USAF Total Lift Capability

After reviewing USAF airlift assets (for more information, see Appendix A: Air Mobility Command), several salient facts become evident. First, the cost of each of these aircraft is very expensive, so expensive in fact that losing even one is considered a major setback to the fleet as a whole. Conducting a mass airborne operation in an MRC, deep in the heart of enemy territory, should be considered a high-risk undertaking, and the potential for losing an aircraft is very high. Second, the primary utility of these aircraft is to be gained in their transportation of cargo. Unless the airborne mission is so critical to the operational success of the overall mission that it must be executed, its negative impact on AMC's capability to accomplish its primary mission is highly detrimental. When an aircraft can haul either 46,812 lbs. of supplies and equipment, or 92 paratroopers on an airborne mission, it is in serious danger of being under utilized if used to perform the latter mission. In the abstract one aircraft doesn't sound to serious, but when compounded by the number of aircraft necessary to conduct any airborne operation, the overall tonnage not transported becomes critical. Further discussion on this issue, of the critical and unique function that airborne forces provide, will be addressed in Chapter III.

In examining the total lift capability provided by each of the strategic and theater level aircraft in the USAF inventory, it would appear that they are poised to transport tremendous quantities of men and material around the world. This is true, but is it enough? When collating the data for each of the strategic and tactical airlift aircraft in the USAF inventory, the total lift capability in tons only reaches between 39,438.4 – 40,257 tons/lift. This is far short of the totals determined earlier using Figure 1 from the AMMP and the MRS/BURU requirement, and this deficit will only increase as the C-141 is retired from the inventory.

Aircraft	**Current Inventory**	**Max. Cargo (tons)**	**Total Lift Capability (tons)**
C-17	64	85.45	5,468.80
C-5	126	135	17,010
C-141	170	34.4	5,841.60
C-130	510	21.77-23.4	11,102-11,934
		Total Lift Capability:	**39422.4 - 40254.4 tons**
Aircraft	**Future Inventory**	**Max. Cargo (tons)**	**Total Lift Capability (tons)**
C-17	120	85.45	10,254

Note 1: The entire C-141 fleet will be retired NLT 2006.
Note 2: If the C-17 fleet reaches its future endstrength of 120 aircraft, the Total Lift Capability would increase to a maximum of 45,039.6 tons.

Table 3. USAF Total Lift Capability.

To reach even half of the two MRC requirement of 49 MTM/D (a possible figure when adjusted for the new QDR guidance), the entire airlift fleet would be required to fly over 608 lifts/day. Obviously this is improbable figure in the extreme. It seems quite possible then that AMC does not have the required number of airlift assets necessary to fulfill the objectives stated in the latest QDR. How much more impact would a mass airborne operation have on AMC, and their ability to execute their primary airlift mission? I will attempt to answer that question in the next section of this chapter.

7. Air Force Support of the 82nd Airborne Division

It goes without saying that without transport aircraft, the 82nd Airborne, more so than any other unit in the Army, would not be able to accomplish its missions. Overall, there are 126 C-130s, 36 C-17s, and 32 C-141s that are dedicated to supporting the 82nd

Airborne Division's airborne operations (for further information, see Appendix B: USAF Support of the 82nd Airborne Division). This is a significant portion of the total airlift aircraft in the inventory, and when they are being utilized in this role, 7,124.1 tons/lift, or approximately 20% of the total airlift capability, is not being transported. Supporting the 82nd further limits AMC's ability to meet its primary mission requirement of supplying and transporting the force in an MRC scenario. A current example of what it would take to support the 82nd Airborne during a mass airborne operation can be found in the planning figures from Operation Royal Dragon.

8. The 82nd Way of War: Operation Royal Dragon

Operation Royal Dragon, the largest peacetime airborne exercise since WWII, was conducted in 1996. For the 82nd Airborne, Royal Dragon provided the opportunity to conduct a division-size drop with roughly the same number of paratroopers that had been planned for the Haitian airdrop in 1994. The missions, task organization, number of personnel, and equipment types used during the planning and execution for these two operations are indicative of how the 82nd Airborne would execute a mass airborne operation in the near future. Altogether, over six thousand paratroopers would jump from 136 transport aircraft in a series of eight night drops over three separate drop zones (Clancy, 1997, p. 223). AMC provided 38 C-141s and a combination of 98 Active, Air Force Reserve, Air National Guard, and Royal Air Force C-130s *(U.S. Air Force News, 1996).* This operational requirement coincided very closely with the operational requirements needed to move the paratroopers of the 82nd Airborne Division when they prepared for their airborne assault of Haiti, when they used 60 C-130s and 50 C-141s (Ballard, 1998, p. 98). I believe that Operation Royal Dragon provides the most current test case available to determine the overall impact of executing a mass airborne operation on AMC's overall transportation capability, an impact that would have significant repercussions on whether these operations are feasible logistically in the future.

What impact would this operation have had on AMC if it had been conducted during an MRC situation? The use of these aircraft would have deprived AMC of between 3,443.6 and 3,600.4 tons/lift, or 8% of the total overall airlift capability. This figure is deceptively low for two reasons: First, it does not take into account the recurring requirement on AMC to sustain the airborne operation. Second, during an

MRC scenario the number of aircraft utilized would have been much higher, since the total package of 6,000 paratroopers would more probably have gone in during a single drop, rather than conducting multiple drops using the same aircraft, as occurred during this operation. That being the case, the amount of tonnage subtracted from the total on the initial drop could have been up to eight times higher, or roughly 28,000 tons/lift – 70% of the total airlift capability. Such a large commitment in aircraft impacts very heavily on the total ability of the airlift fleet to meet the TM/D requirement set by the MRS/BURU. Any aircraft taken away from the main effort of moving supply tonnage from CONUS to another theater involved in an MRC is seriously detrimental to AMC's ability to achieve mission success, and to remove 70% of its capability should be a critical concern to both Army and USAF planners alike.

B. CONCLUSION

In this chapter I have tried to show the relationship between overall requirements, as set by the QDR and the MRS/BURU, to the number of aircraft in the strategic and theater airlift fleet, and their overall capability to meet that requirement. I believe that there is a significant shortfall in this regard, a shortfall only made more obvious if the aircraft used to support the 82nd Airborne Division during Operation Royal Dragon are factored in as representative of the commitment that AMC must provide for such a mass airborne operation to occur. I chose to explore this potential issue using the overlapping MRC scenario, and the 49MTM/D requirement, because it represents the armed forces' worst-case scenario, and the one they most need to be able to execute. If we do not have the requisite amount of airlift to satisfy that requirement, as I believe I have shown we do not, then shouldn't our force structure be adjusted to represent our capabilities? If we cannot transport and sustain a division-sized airborne operation in wartime, then maybe we should scale down that force, and develop a doctrine that supports smaller sized operations. Another critical consideration is whether the 82nd Airborne Division has a unique and critical mission, one that is essential to the ability of the Army to accomplish its mission. If that were the case, then the loss of aircraft to support that mission would seem to be called for. I will follow up this question in the next chapter, when I examine the mission, and the Mission Essential Task List (METL), of the 82nd Airborne Division.

IV. DETERMINING THE UNIQUENESS OF THE 82ND AIRBORNE

In Chapter II, I examined the worldwide requirements faced by AMC during two near-simultaneous MRCs, and the apparent inability of AMC to meet those requirements while simultaneously providing the number of aircraft that would have to be utilized to support and sustain a mass airborne operation in a current crisis. The critical question that evolved from that evaluation of AMC's capability was whether the 82nd Airborne Division's mission is unique, and critical to the ability of the Army to accomplish its mission in support of the National Defense Strategy. If that were the case, then the dilemma regarding the loss of those aircraft to support that mission would be resolved, as long as the 82nd was carrying out its unique and critical mission when it was using these scare resources.

The key question that I will answer in this chapter is whether or not the 82nd Airborne Division does provide the U.S. military with a unique and critical function that warrants the expenditure of airplanes, supplies, and general support required by the execution and sustainment of a mass airborne operation. The methodology that I will utilize to determine the answer to this question will be to evaluate the mission statement and the Mission Essential Task List (METL) of the 82nd Airborne Division, and then compare its mission and METL to those units that most closely resemble it in organization and function: the 10th Mountain Division (Light), the 25th Infantry Division (Light), and the 101st Air Assault Division. From this comparison it should become apparent whether or not these units share many of the same warfighting tasks, or whether they are indeed uniquely organized and trained to conduct separate functions. I will continue my evaluation by examining the METL of the combat brigades that make up these divisions in an effort to fully appreciate how similar and/or different these units are in regard to their warfighting function. We will find that the only unique capability that the 82nd provides is that of being able to conduct a vertical assault by parachute onto their objective. If this is the only additional value that the airborne division has to offer, then I believe that some serious thought must be done to determine how much of that capability is truly needed within the current and future force structure. Does this limited utility

warrant the additional effort and equipment that is required to support and sustain it on the battlefield? In Chapter I, the results of the case study analyses were mixed, and pointed to the high costs in men and material associated with these operations. Chapter II discussed the limited capability that AMC possess to conduct its primary wartime role of transporting essential cargo, while simultaneously conducting a mass airborne airdrop. Shouldn't we begin the process of tailoring that airborne capability towards current and future support assets, the tasks that they've been given, and the overall mission of the Army? Would we be better served using the resources that the 82nd absorbs to support its missions in training and equipping other types of forces?

Before we begin an examination and comparison of the mission statements and METLs of these four divisions, I believe that a quick review of the three division types being discussed might be helpful in understanding each of their unique capabilities, and how those capabilities serve the overall interests of the Army.

A. A REVIEW OF THE LIGHT DIVISIONS

In this section, I will describe the three types of light divisions currently existing in the U.S. Army: the airborne division, air assault division, and light infantry division. From this description of each of the three types of divisions, it should be recognized that each has their own advantages and weaknesses. It is only through understanding these capabilities and vulnerabilities in the context of the missions that the Army is responsible for completing that it becomes possible for us to determine whether the 82nd Airborne Division's uniqueness and criticality is the paramount reason for maintaining such a high level of a limited capability.

1. The 82nd Airborne Division (See Figure 10)

The 82nd Airborne Division is only one of three airborne units currently maintained in the U.S. Army force structure. The 1-508th Airborne Battalion Combat Team (ABCT) is the rapid response force for the U.S. Army Southern European Task Force (Airborne), or SETAF, and is stationed in Vicenza, Italy *(1-508th Infantry Battalion (Airborne) Homepage, p. 1)*. The 1st Battalion, 501st Parachute Infantry Regiment is based out of Ft. Richardson, Alaska, and is responsible for deployments within the Pacific Theater *(1-501st Parachute Infantry Regiment Homepage, p. 1)*.

FM 71-100, *Division Operations* (1996), describes the airborne division as being able to deploy rapidly anywhere around the world to seize and secure vital objectives. It also lists several examples of those vital objectives: capturing initial lodgments, executing large-scale tactical raids, securing intermediate staging bases or forward operating bases for ground and air forces, or rescuing besieged US nationals overseas (FM 71-100, 1996, pp. 1-6). An airborne division can also serve as a strategic or theater reserve, providing reinforcements for forward presence forces. The potential uses of the airborne division are quite numerous. It can be used to assault deep into the enemy's rear areas to secure key terrain, or interdict enemy supply or withdrawal routes. The division can seize an airfield to provide a forward operating base, and secure an airhead for follow-on airlanded forces. It is also capable of all other missions that could be assigned to light infantry forces. All of their equipment is air transportable, and most of it is air-droppable, providing them with tremendous strategic mobility (FM 71-100, 1996, pp. 1-6).

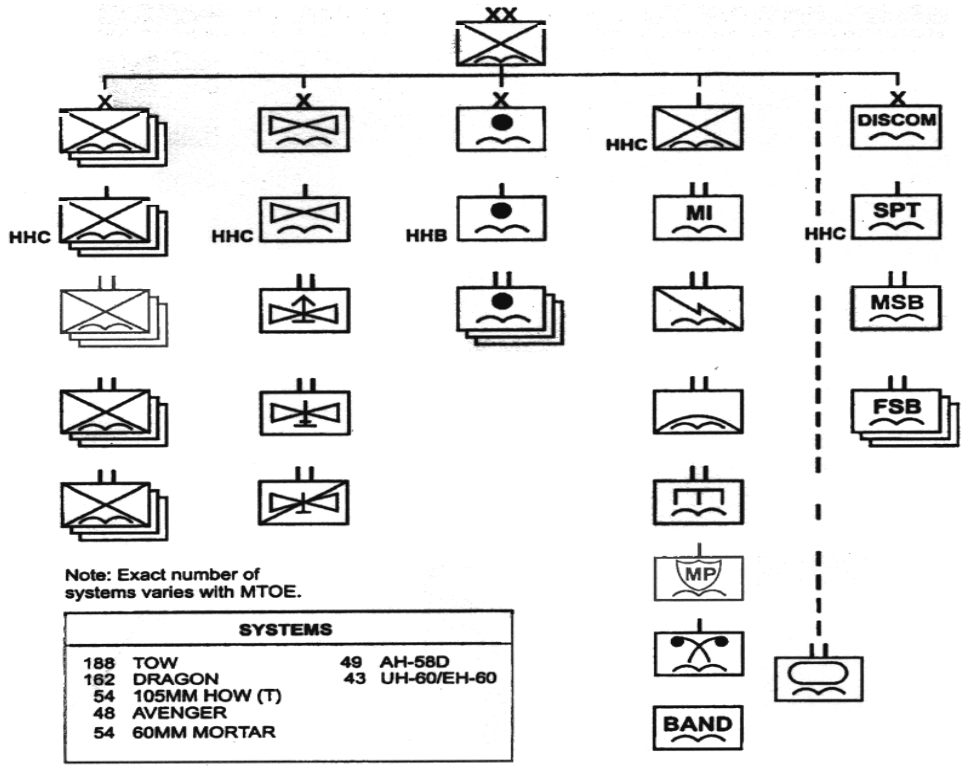


Figure 10. Airborne Division Task Organization (FM 71-100, Division Operations, 1996, pp. 1-6).

The airborne division provides a strategic response force that has the capability of being able to begin movement to virtually any place in the world within eighteen hours after receiving the alert order. Every country on the globe can be reached by the 82nd, and in limited crisis scenarios we have the aircraft and resources to get our soldiers and their equipment there quickly. According to LTG John Keane, a former commander of the XVIII Airborne Corps, "the 82nd, probably more than any other division in the Army, sends a message when it is deployed. When we commit the 82nd, it's an expression of the political will of the nation" (Clancy, 1997, p. 39).

All of this potential to execute a variety of missions notwithstanding, an airborne division suffers from several limitations. It completely relies on USAF tactical or strategic airlift for its initial entry into battle, and for further resupply until the linkup portion of the operation with other ground forces has been completed. Once the division has reached its objective by air, it is severely restricted in its tactical mobility, having very limited organic ground and air assets. The airborne division no longer has an organic armor capability, and lacks sufficient protection to defeat heavier armored formations at close range. Current and future anti-tank weapons may help to offset this limitation, as will close air support, but they will not be able to completely offset it. An airborne division also requires more close air support than that provided to other infantry divisions. The airborne division is organized with only light field artillery, and this absence of heavier field artillery limits the support it can provide for its maneuver battalions, while reducing its ability to deliver counterfire and to provide suppression of enemy air defenses (FM 71-100,1996, pp. 1-6).

2. The 101st Air Assault Division (See Figure 11)

The air assault division combines two very important capabilities to make it a very formidable organization: a high degree of strategic mobility coupled with an extremely high degree of tactical mobility within an area of operations (AO). The air assault division uses organic helicopters to move combat, combat support, and combat service support units over the battlefield. This gives the air assault division the ability to deploy, and redeploy, rapidly to engage the enemy and operate over a wider area than most divisions (FM 71-100, 1996).

An air assault division has many capabilities that make it unique to the Army force structure. It can attack from any direction, into otherwise inaccessible areas. Its aerial mobility allows it to overfly barriers or bypass enemy positions, a characteristic that provides tremendous flexibility to operational planners. This flexibility usually achieves surprise, and can cause the enemy to react prematurely or disclose his positions to other attacking forces. An air assault division can concentrate, disperse, or redeploy its forces rapidly to extend the division's area of influence, to develop enemy contact, or to decrease the division's vulnerability to enemy attack. By being able to fight simultaneously in more than one direction or in more than one area of operations, it maintains a rapid tempo of operations that allows it to maintain the initiative against enemy forces. The division often conducts operations under adverse weather conditions and at night to facilitate deception and surprise. It can rapidly reposition its field artillery units by air, or commit an attack helicopter battalion, to weight the battlefield for operational success. As part of a non-permissive entry operation, the division can conduct airhead operations without external support for approximately two days (FM 71-100, 1996).

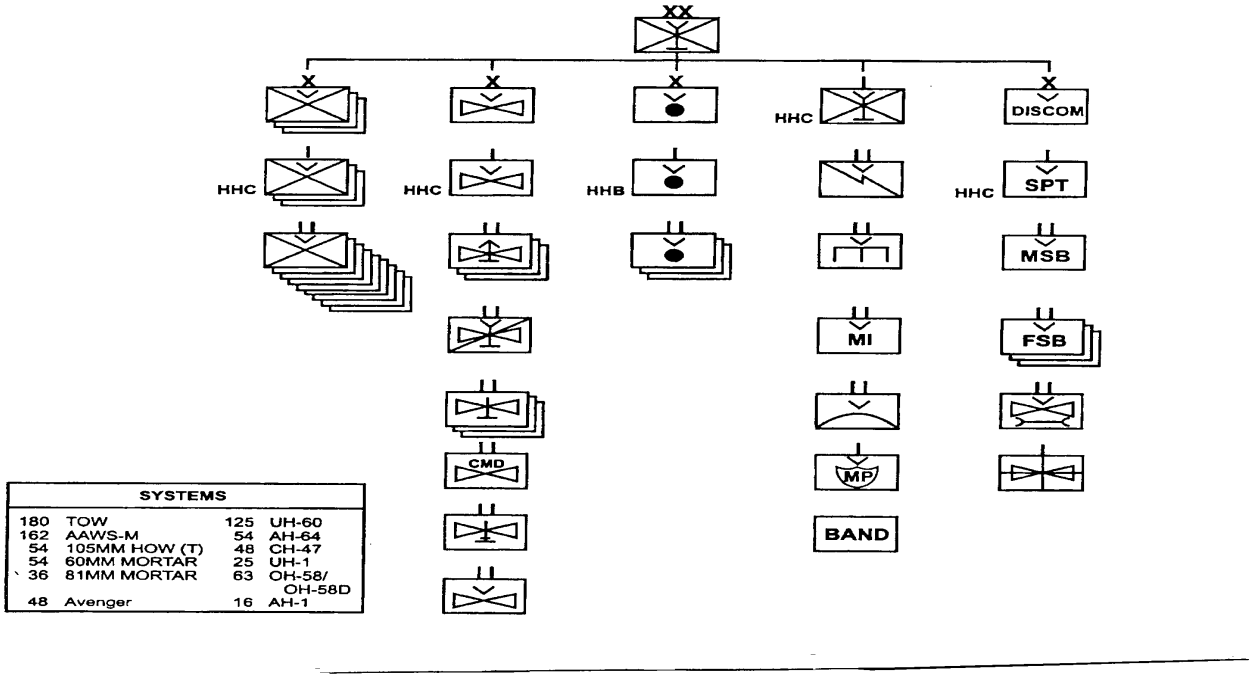


Figure 11. Air Assault Division Task Organization (FM 71-100, Division Operations, 1996, pp. 1-7).

Within a theater of operations, the 101st can move a brigade-sized task force with its organic lift helicopters out to a distance of 93 miles ahead of the forward lines, and do it in only a few hours. This was demonstrated operationally during Operation Desert Storm, when the entire division moved 155 miles into Iraq in just under 24 hours. It is this flexibility that makes the 101st such a unique organization, and with seventy-two AH-64 Apache attack helicopters, it is also has tremendous firepower capabilities (Clancy, 1997, p. 39).

The air assault division does have several limitations that must be factored into any operational planning. Helicopters, their primary mover and fire support asset, do have operational limitations, such as those that address altitude performance, and are restricted from flying during extremely severe weather conditions. It is also preferable to have near-secure landing zones for delivery of units into an objective area. The division is vulnerable to enemy tactical aircraft, air defense, and electronic warfare systems. Once dismounted from the aircraft, the soldiers of the 101st have little ground transportation, limiting their ground operation role to that of light infantry (FM 71-100, 1996).

3. The Light Infantry Division (See Figure 12)

The U.S. Army currently maintains two light infantry divisions in its force structure, the 10th Mountain and the 25th Light Infantry Division. The 10th Mountain is the lightest force in the Army, and the smallest in terms of personnel and equipment. As a comparison, the 10th Mountain has 8,700 personnel assigned to it compared to 15,000 for the 82nd, and 17,000 for the 101st. The principal concept behind this lightness was the need to be able to move them quickly to a theater of operations, and then conduct either a permissive-entry operation, or act as part of a follow-on force to a forced entry operation (Clancy, 1997, p. 40).

The light infantry division's primary advantage is its ability to operate in virtually all terrain and weather conditions and enemy situations. Unlike heavy armored and mechanized divisions, the light infantry division requires substantially less logistical support than its heavier counterparts. It can enter the battle from a variety of strategic or tactical modes of transport, whether that be commercial airliner, airlanded by military aircraft, helicopters, boats, trucks, or the method used by the ancient Roman centurions, their feet. Once employed in an operation, the light infantry division is relatively easy to

resupply and sustain, and with the proper resources it can be readily repositioned for subsequent employment into other critical areas. Its divisional artillery is light, easily set up and employed, and easy to reposition rapidly (FM 71-100, 1996, pp. 1-5).

The light infantry division also has its share of vulnerabilities and limitations. It has very limited vehicle assets, and only a battalion of UH-60 lift helicopters that are capable of moving one infantry battalion per lift. This restricts most movement of the division to that accomplished on foot. The lack of tactical mobility increases its reaction time, limiting its battlefield maneuverability. Light infantry forces are also especially vulnerable to enemy fires, whether stationary or during movement. They therefore require more engineer support to provide protective measures. The infantry division also has less organic firepower, both direct and indirect, than an armored or mechanized division (FM 71-100, 1996, pp. 1-5).

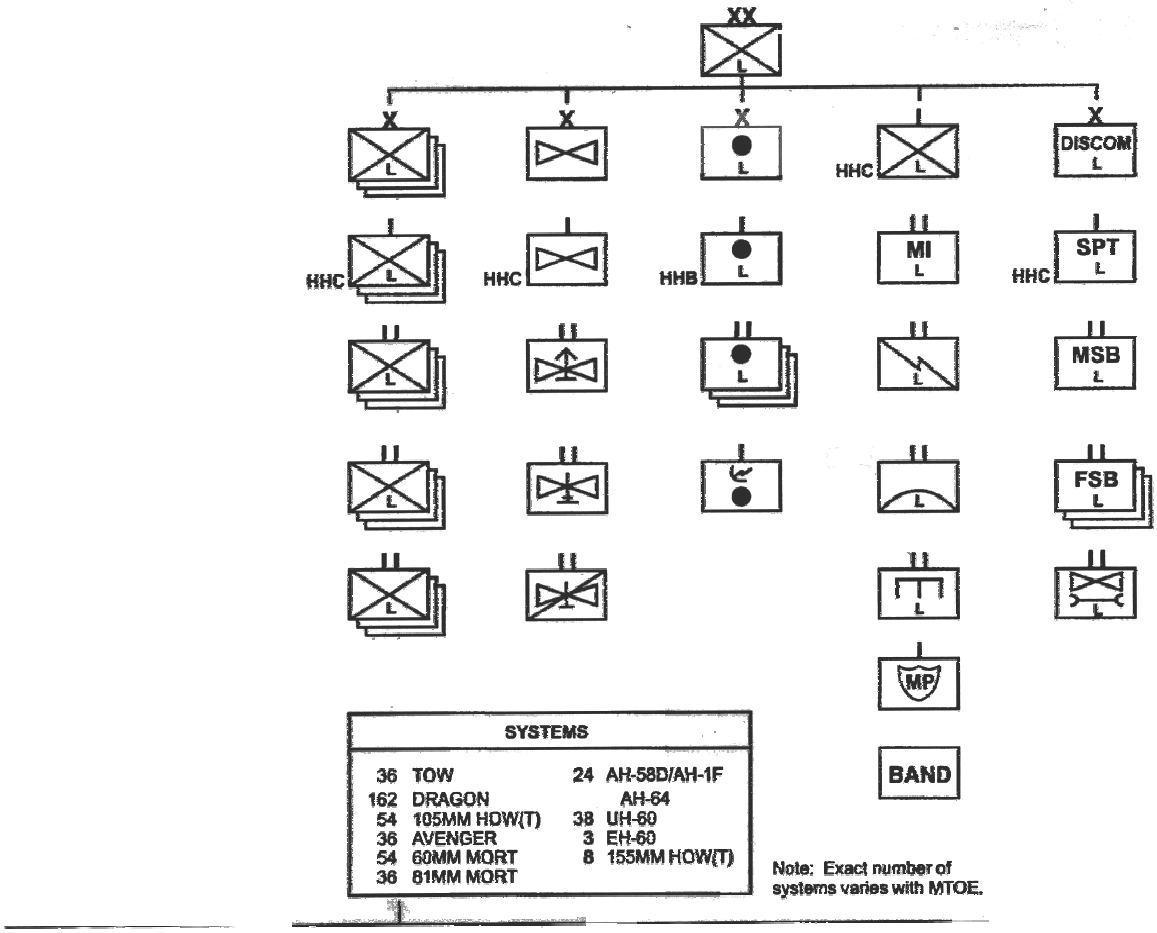


Figure 12. Light Infantry Division Task Organization (FM 71-100, Division Operations, 1996, pp. 1-5).

B. COMPARING THE MISSIONS AND METLS

In this section, we will begin our comparison of the four divisions mission statements and METL lists. We will begin with the subject of this evaluation, the 82nd Airborne Division:

1. 82nd Airborne Division's Mission Statement

Within 18 hours of notification, the 82nd Airborne Division strategically deploys, conducts forcible entry parachute assault and secures key objectives for follow-on combat operations in support of National interests (*82nd Airborne Division Memorandum, subject: Standardized METL, 4 May 1999*).

Combat Infantry Brigade's Mission Statement

To deploy worldwide within 18 hours of notification, execute a parachute assault, conduct combat operations, and WIN! Specifically, the Regiment will conduct a forcible entry to seize a defended airfield, build up combat power as quickly as possible, and conduct follow-on military operations *(Task Force Falcon Homepage, p. 1*).

2. 101st Air Assault Division's Mission Statement

Deploy in 36 hours, worldwide, to defeat enemy forces and control land areas, including population and resources, by employing the unique capabilities of the Air Assault Division *(personal communication, Jan. 8, 2002, tuttlek@emh2.campbell.army.mil)*.

Combat Infantry Brigade's Mission Statement

To deploy within 36 hours worldwide to close with the enemy by means of fire and maneuver to destroy or capture him, or to repel his assault by fire, close combat, and counterattack *(personal communication, Jan. 8, 2002, tuttlek@emh2.campbell.army.mil)*.

3. 10th Mountain Division's Mission Statement

Maintain a light infantry division, trained and ready to deploy rapidly by air, sea, or land, anywhere in the world, and be prepared to fight upon arrival and win *(personal communication, Jan. 9, 2002, Russell.Hoff@drum.army.mil)*.

Combat Infantry Brigade's Mission Statement

Be trained and ready to deploy worldwide on short notice, conduct combat operations, and win while caring for soldiers and family *(personal communication, Jan. 9, 2002, Russell.Hoff@drum.army.mil)*.

4. 25th Infantry Division's Mission Statement

> The 25th Infantry Division (Light) prepares for deployment to a theater of operations to perform combat operations as part of a corps counterattack. On order, conducts theater-wide deployment within 54 hours of notification to perform combat operations in support of USCINCPAC theater strategy *(25th Infantry Division (Light) and United States Army, Hawaii Homepage, p. 1)*.

Combat Infantry Brigade's Mission Statement

> To be trained and ready to deploy rapidly by air, sea, and land anywhere in the world, and be prepared to fight upon arrival *(3rd Brigade, 25th Infantry Division (Light) Homepage, p. 1)*.

One common element in each of these mission statements is the requirement for each unit to be able to deploy rapidly, whether that be 18, 36, or 54 hours, to a theater of operations that could be located worldwide. This time requirement is set by these units' higher headquarters. If required, the infantry soldiers of the 10th Mountain Division, 25th Infantry Division, and the 101st Air Assault Division could be ready to deploy just as quickly as those of the 82nd Airborne if that was the mission assigned to them by their higher headquarters commander. Deploying the heavier assets (i.e. the aviation brigades) of these units would take more time, but that is true of all of these units, including the 82nd. If we compare the divisions as a whole, the 10th Mountain Division, with fewer personnel and lighter equipment (aviation and artillery), could move as a unit before the 82nd, which would be able to deploy before the 101st Air Assault. In many cases, the aviation assets could self-deploy to a theater of operations if necessary. This timeline is primarily set to organize the flow of units into a theater, based upon USAF airlift support requirements. It has very little to do with the actual ability of the unit to be prepared to move in the time designated.

Another common feature of each of these mission statements is the objective of conducting combat operations against the enemy's forces. Conducting combat operations translates into two tasks; offensive and defensive operations. Looking back at our earlier descriptions of each of these divisions, we can see that once the forces have been deployed to a theater of operations, whether by parachute, helicopter, or numerous other methods, they all fight as general infantry soldiers once they are on the ground. The

airborne and light infantry divisions maintain a limited amount of tactical mobility provided by their organic lift helicopter battalions and some vehicular support, but it is only in the air assault division that air mobility significantly contributes to the planning and execution of the tactical mission.

The only unique task that was mentioned in all four of these mission statements was by the 82nd Airborne Division, when they specify, "conducts forcible entry parachute assault" in their mission statement. At this point in our examination then, I would have to say that this is the one aspect of the four divisions we are examining that sets the 82nd apart from the others. The timetable for each of these divisions could be adjusted based upon a reevaluation of the role each division should play in implementing national strategy, and the method by which these forces fight once they are upon the ground is relatively the same. To get a better understanding of how these mission statements, and the METL tasks, of each division compare to each other, I have constructed a series of tables to help illustrate exactly how unique the 82nd Airborne Division may or may not be. Table 4 compares the METLs of each of the four light divisions:

METL Tasks (Division Level)	82nd ABN	101st AA	10th MTN	25th ID
1. Alert, Marshal, and Deploy within 18 hours notice	X			
2. Conduct Tactical Deployment/ Redeployment Activities			X	X
3. Conduct an Airborne Assault to Seize an Airfield	X			
4. Conduct Air Assault into AO		X		
5. Secure a Lodgment	X			
6. Conduct Offensive Operations/ Conduct an Attack.	X	X	X	X
7. Conduct Movement to Contact/ Search and Attack			X	
8. Conduct Defensive Operations/ Conduct an Area Defense.		X	X	X
9. Sustain the Division	X	X	X	X
10. C2 the Division/Conduct C4ISR	X	X	X	X
11. Protect the Force/Conduct Survivability Operations	X	X	X	X

Table 4. Division METL Tasks.

Table 5 compares the METLs of the combat infantry brigades of each of the four divisions to focus even more closely our examination of the functions of each unit, and their possible uniqueness in the force structure:

METL Tasks (Brigade Level)	82nd ABN	101st AA	10th MTN	25th ID
1. Attack	X	X	X	X
2. Defend/Conduct a Defense		X	X	X
3. Perform a Movement to Contact/ Search and Attack	X		X	X
4. Perform Air Assault	X	X		
5. Perform Air Assault to Seize Airfield	X			
6. Establish/Seize Lodgment	X	X		
7. C2 the Brigade/Force	X	X		
8. Protect the Force	X	X	X	X
9. Perform CSS Operations	X	X	X	X
10. Execute RSOP	X	X		
11. Conduct Tactical Deployment/ Redeployment Activities			X	X

Table 5. Infantry Brigade METL Tasks.

From these two tables it becomes clear which METL tasks appear unique to the 82nd Airborne. The only unique tasks that the 82nd Airborne Division conducts at the Division level are METL tasks #1, #3, and #5. At the Brigade level, only METL task #5 is a unique task. As I discussed earlier, each of these four types of divisions could have their infantry soldiers ready for deployment within 18 hours, therefore, METL task #1 (Alert, Marshal, and Deploy within 18 hours notice) should be removed from the list of unique tasks performed by the 82nd Airborne. The 82nd Airborne Division's METL Task #5 (Secure a Lodgment) is also mirrored on the 101st Air Assault Division's Combat Infantry Brigades METL list, METL task #6, so this task should also be removed from the list of unique tasks that the 82nd Airborne Division conducts. That leaves only METL

task #3 (Conduct an Airborne Assault to Seize an Airfield) as the one unique function that the 82nd provides above and beyond those of the other light divisions.

C. CHALLENGING THE "UNIQUENESS" THEORY

Until this point in my examination, I have neglected to discuss any of the special operations units that belong to U.S. Special Operations Command (USSOCOM), since their missions do not compare with those missions of a conventional force like the 82nd Airborne Division. There is one notable exception, and that one exception directly challenges the "unique" function that we determined was the 82nd's, conducting an airborne assault to seize an airfield. That unit is the 75th Ranger Regiment.

The 75th Ranger Regiment plans and conducts special military operations in support of U.S. policy and objectives, providing the capability to rapidly deploy a credible military force to any region in the world. Additionally, Rangers are often called upon to perform missions in support of conventional forces. Their METL includes such tasks as movement to contact, ambush, reconnaissance, airborne and air assaults, and hasty defense. The Rangers have trained themselves to be the premier airfield seizure and raid unit in the Army. Conducting an airborne or air assault insertion, a Ranger battalion would typically seize an airfield for use by follow-on conventional forces, and once secured, airlanded or airborne forces would be introduced into the theater to relieve the Ranger force *(Special Operations Reference Manual*, 1998, pp. 3-2). The 75th Ranger Regiment is also on call to be able to deploy anywhere in the world on 18 hours notice. Their capabilities are quite extensive: Infiltrating and exfiltrating by land, sea, and air; conducting direct action operations; conducting raids; recovery of personnel and special equipment; and conducting conventional or special light infantry operations (*Special Operations Reference Manual*, 1998, pp. 3-4).

As with all units, the Rangers do have their own limitations. Due to their light infantry role, they only have a very limited anti-armor capability. Their only air defense system is the Stinger missile. They have no organic combat support (CS) or combat service support (CSS), and only deploy with five days of supplies. They also have very limited organic transportation assets, which requires that they receive CSS support from other services/agencies (*Special Operations Reference Manual*, 1998, pp. 3-4).

From this discussion of the 75th Ranger Regiment, it is apparent that it shares many of the identical METL tasks that made the 82nd unique when compared to the other light divisions. Both are on call for deployment within 18 hours of notification, and both share the mission of conducting an airborne assault to seize an airfield. When we review the historical record to help determine which unit actually provides that capability during an operation, further erosion of the 82nd's uniqueness and criticality results. During the last two forced entry operations conducted by the Army, Operation Urgent Fury into Grenada in 1983 and Operation Just Cause into Panama in 1988, it was the 75th Ranger Regiment that provided the initial forces that seized an airfield that the 82nd Airborne jumped into later. During all of the major operations of the past two decades, the 82nd Airborne Division has played a minimal role, and certainly not that envisioned by airborne enthusiasts. During Operation Desert Shield, the 82nd was deployed by commercial airliner as a show of force to Iraq, but they did not conduct a single airborne operation throughout the course of the war. During the 90's, and during the current war on terrorism, the 10th Mountain Division was the unit being deployed more often than any other infantry force. The 101st Air Assault Division is currently active in Afghanistan, having just completed Operation Anaconda. The 75th Ranger Regiment led the forces that were used to conduct the raid onto the Kabul airport in Afghanistan, again proving their capability in conducting an airfield seizure. It has been a long time since the 82nd was used for the purpose it was created for, to close with and destroy the enemy. Only recently was the 82nd given the nod to deploy to Afghanistan, and only in the capacity of airfield security, detainee interrogation, and general-purpose duties.

Has the 82nd Airborne Division become such a sacred cow to the military that we are now afraid to utilize its capabilities operationally? The record from the 80's, 90's, and our current War on Terrorism, might suggest that this is the case. In a world where international crises are the word of the day, and with the limited number of ground forces that the Army has available, it remains imperative that each unit in the total force structure brings something valuable to the equation. The comparison of missions and METL tasks disproves the "uniqueness" of the 82nd Airborne, leaving only METL task #3 (Conduct an airborne assault to seize an objective) as the unique task. This "uniqueness" is further eroded when compared against the missions conducted by the 75th Ranger

Regiment. Is the 82nd's only critical function then that of demonstrating the U.S.'s resolve in crisis situations as they did in Saudi Arabia during Operation Desert Shield in 1990? Can we afford during this era of reduced manpower in the armed forces to have a unit that only has a political function? If we are not going to use the 82nd Airborne operationally, if they are so special that we can only use them for super-strategic missions, than is it necessary to maintain such a large airborne force in the force structure of today, and potentially in the future? I am not arguing for the elimination of all airborne forces. On the contrary, I wholeheartedly believe that there does exist a need for airborne forces within the U.S. Army's force structure, not only to execute the critical task of conducting an airborne assault to seize an airfield during an MRC or during a host of smaller operations, but also to provide a commander with a force useful across a range of missions. Using the latest QDRs two near-simultaneous MRCs as our worst-case scenario, there even exists a requirement to have a redundant capability to conduct those missions. I would argue that that requirement is more than adequately fulfilled by the 75th Ranger Regiment, the 1-508th ABCT of SETAF, and the 1-501st (Airborne) stationed in Alaska, without the need to maintain a separate division-size airborne force.

V. CONCLUSION

Being a military history buff, when I began writing this thesis I believed that I would prove that the mass airborne operations had been critical to the success of the supported ground operations. Once I dug deeper into the historical evidence, and turned away from the heroic accounts of the men involved, the critical standard against which I held these operations began to alter my perception of their success. Many readers will argue that I have not taken into account the intangibles airborne forces bring to the fight: extremes in courage, initiative, self-reliance, and a never-say-quit attitude. This is true, as I have tried to focus on more quantitative MoE's to determine the criticalness of the airborne effort, specifically at the brigade/regimental level and higher. Airborne forces do have those qualities in abundance, and throughout their history they have been served well by them, otherwise I believe that the record of success would be even more negative.

To summarize the conclusions that I have derived from each chapter, in Chapter I, I determined that four of the nine operations could be considered successful (Sicily, Normandy, Rhine, and the Sukchon operations), primarily because the tactical operations, while either not executed very well or not extremely critical, did contribute to the overall success of the ground operation. One operation was a strategic success although a failure at the tactical level (Holland), one was a strategic success, but was outweighed by the costs of the operation (Crete), and two operations were complete failures (Dnepr, Market-Garden). In contrast to these mass airborne operation case studies, the Japanese case study provides some insight into how a smaller force can still produce great strategic impact.

In Chapter II, I examined USAF's airlift requirements if the U.S. were to be involved in an MRC, and the overall capability that AMC's airlift fleet has to carry out this mission. I then determined, using the most current example of a mass airborne operation involving the 82nd Airborne, how detrimental that operation would be to the overall ability of USAF to carry out its primary mission. The conclusions that I drew from this analysis are bleak. Currently, USAF does not have the necessary airlift capability to meet its QDR requirements, and that situation will only get worse as the C-

141 fleet is retired. When an additional mass airborne operation is considered, AMC's overall operation will be critically impacted, and the amount of material and supplies that it will be able to transport worldwide seriously hampered.

In Chapter III, to determine whether or not the 82nd Airborne Division does have a unique and critical function, I compared them to the other three light divisions currently in the U.S. Army force structure. I examined the Missions and METLs in comparison to each other, and determined that there was only one task that was unique to the 82nd Airborne, that of conducting an Airborne Assault to Secure an Airhead. I then compared that task to the those executed by the 75th Ranger Regiment, and came to the conclusion that the 82nd did not have a unique function. And although the task to conduct an Airborne Assault to Secure an Airhead is a critical one, I do not believe that it is so critical to warrant the size of the airborne forces that we currently have to execute it. Between the 82nd Airborne Division, the 1-501st (Airborne) in Alaska, the 1-508th ABCT in Italy, and the 75th Ranger Regiment, there appears to be more than an adequate force available to conduct this mission, even during two overlapping MRCs.

A. RECOMMENDATIONS

As the U.S. Army, and the military as a whole, attempts to determine what its force structure should look like in order to become a capabilities based force capable of fighting an unknown future threat, it is important that all of the forces and their organization be examined to determine what should stay, and what should go. A recent example is the Crusader, a legacy system relic that was being built to fight the ex-Soviets in the Fulda Gap. Of the forces currently within the U.S. Army, the airborne arm remains the most outdated, in its organization, equipment, and concept of operations. Technological advances have changed the way armor, artillery, aviation, and even light infantry fight today, but the basic premise of airborne operations remains the same. The methods and techniques used to get the airborne soldier to the fight have evolved as technology has advanced, but once on the ground the current airborne warrior fights today as his forebears did during WWII. The next two sections describe two possible changes, one doctrinal and one organizational, that could revolutionize the airborne arm, continuing its relevance and criticalness in this modern era of war.

B. DOCTRINAL CHANGE

In their book, Swarming and the Future of Conflict, John Arquilla and David Ronfeldt examine a new method of fighting that they call "swarming". Swarming is a deliberately structured, coordinated, strategic way to strike from all directions, by means of a sustainable pulsing of force and/or fire, close-in as well as from stand-off positions. (Arquilla and Ronfeldt, 2000, p. vii). This doctrine maximizes the use of networked information systems, modern communications, and long-range fires so that the net effect of scattered forces are brought together at the critical place and time on the battlefield, and produce an impact far beyond their size. An example of that doctrine can be witnessed, albeit inadvertently, in the conduct of the airborne operation at Normandy. The widespread landings during Operation Overlord may have actually contributed to airborne successes. There were no battalion concentrations against which an effective German counterattack might have been launched. The resulting confusion did not fit into the German plan of defense; it simply had no place in German anti-airborne doctrine. Small groups of paratroopers and glidermen fought as they worked their way towards assembly areas. The effect of all this action was a very real contribution to the rapid reduction of Utah Beach defenses, and the establishment of a deep beachhead line (Huston, 1972).

Whether an airborne operation is conducted during daylight or darkness, the potential for widespread landings must be factored into the plan. Rather than trying to find new methods of dropping the airborne force closer to their DZs, maybe that initial chaos and individual dispersal could be incorporated into the overall strategy. To do this, each paratrooper would have to have the latest in communications gear, enabling him to talk with all types of long-range fire assets, and to the other paratroopers scattered around the battlefield. Rather than needing an entire company to hold a bridge site, one paratrooper on a piece of high ground, with access to and communications with Air Force fighter cover, Tomahawk missiles, naval fires, and long-range Army systems, could deny the enemy the objective until the arrival of ground forces. These individual paratroopers, working in small concentrations, networked through the newest in information systems, and moving with the objective of the operation in mind, could cause untold confusion and damage to an enemy commander, greatly supporting the ground forces commander's

chances of success. This concept of operations was used to great affect by Special Operations forces working in close coordination with Air Force and Navy close air support (CAS) assets during the U.S. effort in Afghanistan to destroy the Taliban armed forces and the Al-Queda terrorist organization.

C. ORGANIZATIONAL CHANGE

Another change that might better utilize an airborne forces strength, while helping to minimize their weaknesses, would be an organizational change. Their greatest advantage lies in their ability to reach the battlefield quickly, landing in locations inaccessible to other forces. Their traditional weaknesses have been a lack of tactical mobility and firepower against heavier forces. One officer who has examined this issue is COL Douglas Macgregor, the author of Breaking the Phalanx. In his book he postulates the structure of what he describes as an Airborne-Air Assault Group (See Figure 13), a combined force of approximately 4,100 soldiers (Macgregor, 1997, p. 77). This force is designed to take maximum advantage of the strategic mobility that the airborne force currently enjoys, and wed it to the tactical mobility and firepower enjoyed by the Air Assault division. In this organization, the paratroopers could be delivered by parachute, and link up with their aviation assets later, or the entire formation could potentially self-deploy over shorter distances (i.e. Italy to Croatia) with its own aircraft (Macgregor, 1997, p. 77). It is also designed so that the entire force could be transported with military air, or a mix of commercial and military airlift.

The tactical mobility and firepower this force would employ comes from twenty-four towed 155mm howitzers, nine RAH-66s (scout helicopter), fifteen AH-64s (attack helicopters, and ninety-three UH-60s (air assault helicopters). Having these units (aviation and artillery) contained within the structure immediately reduces its reliance on additional divisional assets, a planning consideration the 82nd Airborne currently faces. This reduced reliability translates into more agility, flexibility, and focused firepower for the Airborne-Air Assault Group, and a correspondingly less need for such a robust division presence. These qualities allow an Airborne-Air Assault Group to maintain an increased temp of operations that the enemy must contend with, and which, if he fails to manage, ensures that the initiative remains with the U.S. forces.

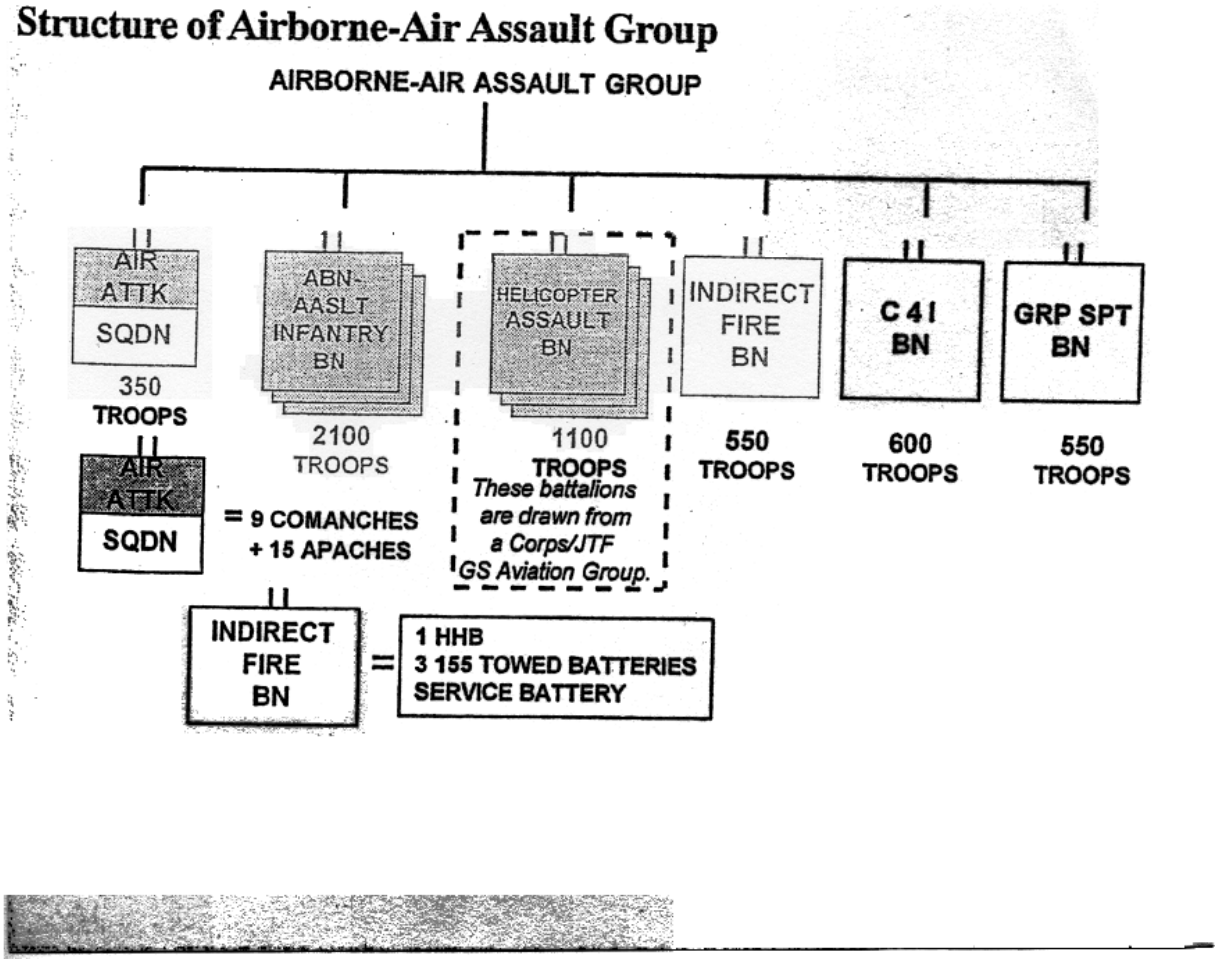


Figure 13. Structure of an Airborne-Air Assault Group (From Macgregor, 1997, p. 77).

Following the airborne operation of 11 July 1943, during the battle for Sicily, General Eisenhower, writing from North Africa, would write:

> To digress for a moment I do not believe in the airborne division. I believe that airborne troops should be organized in self-contained units, comprising infantry, artillery, and special services, all of about the strength of a regimental combat team. Even if one had all the air transport he could possibly use the fact is at any given time and in any given spot only a reasonable number of air transports can be operated because of technical difficulties. To employ at any time and place a whole division would require a dropping over such an extended area, that I seriously doubt that a division commander could regain control and operate the scattered forces as one unit. In any event, if these troops were organized in smaller, self-contained units, a senior commander, with a small staff and radio communications, could always be dropped in the area to ensure necessary communications. (Huston, 1972, p. 166).

With the limited amount of resources that the U.S. Army has available to equip, train, and prepare her military forces, why does it persist in maintaining an airborne division, when other forces would better suit its needs? An airborne division is expensive to train and maintain, and when an opportunity has arisen to use them in the recent past, other forces executed the missions. With the current deployment of airborne soldiers to Afghanistan to act as airfield security and force protection units, I believe we really need to examine if this is the best method of utilizing this force. If it is not, maybe the question should be asked whether or not we have too large an airborne force, when fewer would suffice just as well.

From the conclusions that I reached in this thesis, I think that one point has made itself very clear; the 82nd Airborne Division is too large. The size of the 82nd Airborne Division has no direct correlation to the missions it is expected to accomplish, and that in fact can and will be executed by other, smaller forces. The size of the 82nd Airborne is also a detrimental factor to the overall supply efforts of AMC if it is tasked to conduct a mass airborne operation. And the size of the 82nd Airborne Division does not in fact guarantee operational success, which the historical evidence directly refutes. There does exist a tension between the need to maintain some level of airborne capability, and the cost of supporting those forces. I believe that the lesson for the 82nd Airborne Division might lie in the Japanese cases, and those other smaller airborne operations that I did not examine. Small airborne forces, armed with the latest in networked technology, could still provide to the ground commander a "punch" that far outweighs the size of the force utilized. I would then conclude that the U.S. Army should reduce the number of paratroop units it maintains to better support its war plans and potential contingency operations. I can foresee a need to maintain an airborne battalion in the Pacific Theater, an airborne battalion in the European Theater, and an airborne brigade as a strategic reserve. Coupled with the 75th Ranger Regiment's capabilities, that is an adequate amount of force to accomplish its airborne missions. The resources saved by such a reduction would be much better utilized to better equip and train the remainder of the U.S. Army's infantry forces for combat, or to address other such shortcomings as required.

APPENDIX A. AIR MOBILITY COMMAND LIST OF REFERENCES

A. AIR MOBILITY COMMAND

U.S. armed forces must be able to provide a rapid, tailored response with the capability to intervene against a well-equipped foe, hit hard, and terminate quickly. Air Mobility Command (AMC) provides the resources to provide that rapid response. AMC's primary mission is rapid, global mobility and sustainment for America's armed forces. It is this rapid, global mobility that lies at the heart of U.S. strategy in today's unstable, and often violent, world environment. Without the capability to project those forces, there would be no conventional deterrent. (www.af.mil/news/factsheets/Air_Mobility_Command.html). To accomplish that mission, AMC is organized as follows:

HEADQUARTERS AIR MOBILITY COMMAND Scott AFB IL			
21st Air Force McGuire AFB NJ		15th Air Force Travis AFB CA	
305th Air Mobility Wing McGuire AFB NJ	19th Air Refueling Group Robins AFB GA	60th Air Mobility Wing Travis AFB CA	92nd Air Refueling Wing Fairchild AFB WA
89th Airlift Wing Andrews AFB MD	463rd Airlift Group Little Rock AFB AR	62nd Airlift Wing McChord AFB WA	319th Air Refueling Wing Grand Forks AFB ND
436th Airlift Wing Dover AFB DE	621st Air Mobility Operations Group McGuire AFB	375th Airlift Wing Scott AFB IL	615th Air Mobility Operations Group Travis AFB CA
437th Airlift Wing Charleston AFB SC	721st Air Mobility Operations Group Ramstein AB, Germany	22nd Air Refueling Wing McConnell AFB KS	715th Air Mobility Operations Group Hickam AFB HI
43rd Airlift Wing Pope AFB NC		317th Airlift Group Dyess AFB TX	
6th Air Mobility Wing MacDill AFB FL			

Table 6. Air Mobility Command Organizational Chart.

Airlift transport tasks basically fall into the following two categories:

Strategic Operations – The airlift of personnel and equipment between theaters including scheduled, specially mounted, and aeromedical evacuation flights.

Tactical Operations - The airlift of personnel and equipment within a theater.

Tactical tasks include:

- Airlanded missions: Delivery by fixed wing aircraft into prepared or semi-prepared airfields
- Air-Dropped missions: Delivery by parachute from fixed wing aircraft either because the operational situation demands an airborne assault of troops and airdrop of equipment, or because no suitable airfield is available for airlanded missions. (Chapman, 1989, pp. 13-14)

1. USAF Strategic Aircraft Capability

The purpose of these next two sections (Strategic and Theater Capability) is to better understand the cost, cargo payload capability, and the overall contribution in ton-miles/day (TM/D) that each aircraft in USAF's inventory provides, and to evaluate that total airlift capability against the requirements set by the MRS/BURU.

The ultimate measure of airlift effectiveness is the ability to rapidly project and sustain an effective combat force close to a potential battle area (www.af.mil/news/factsheets/). The Air Force maintains three strategic aircraft to accomplish that mission; the C-5, C-17, and the C-141. All three aircraft are capable of deploying between CONUS and theaters of operation, although the C-141 is nearing the end of its operational service life and is currently in the process of being retired from operations.

a. C-17 Globemaster III

The C-17 Globemaster III is the newest and most flexible cargo aircraft to enter the airlift force. It is capable of rapid strategic delivery of troops and all types of cargo to main operating bases or directly to forward operating bases. This aircraft is capable of performing tactical airlift and airdrop missions when required.

- Range: The C-17 has an unrefueled range of 2,400 nautical miles, and a global range with in-flight refueling.
- Cargo: The C-17 can carry virtually all of the Army's air-transportable equipment, and exercises a maximum payload capacity of 170,900 lbs.

- Passengers: The C-17 is designed to airdrop 102 paratroopers and equipment.
- Cost: $236.7 million (FY 98 constant dollars) per aircraft.
- Inventory: The Air Force is scheduled to buy a total of 120 C-17s, with a final delivery of Nov. 2004. Currently, 58 aircraft are on Active duty, and 6 are with the Air National Guard (www.af.mil/news/factsheets/).
- Total Lift Capability: If each of the 64 C-17s flew to their maximum payload capacity, 5,468.8 tons could be flown in one lift. When the C-17 fleet reaches 120 aircraft, that figure would grow to 10,254 tons/lift.

b. C-5 Galaxy

The C-5 is specifically designed to undertake a wide and demanding range of airlift tasks. By virtue of its ability to operate from relatively short unpaved airfields, and air-drop both paratroops and cargo, the C-5 can be used on quasi-tactical as well as strategic tasks. This aircraft can carry fully equipped combat-ready military units to any point in the world on short notice.

- Range: 2,650 nautical miles without aerial refueling, and a global capability with in-flight refueling.
- Cargo: The maximum cargo carrying capability is 270,000 lbs. and it can carry outsize and oversize cargo intercontinental ranges. The Galaxy carries nearly all of the Army's combat equipment.
- Passengers: The C-5 can carry up to 345 troops (Chapman, 1989).
- Cost: $152.8m per C-5A, and $179m per C-5B (FY98 constant dollars).
- Inventory: 50 C-5Bs and 76 C-5As. (www.af.mil/news/factsheets/).
- Total Lift Capability: With all 126 C-5s flying to their maximum payload capacity, 17,010 tons could be flown per lift.

c. C-141B Starlifter

The C-141B Starlifter fulfills the vast spectrum of airlift requirements through its ability to airlift combat forces over long distances, and deliver those forces and their equipment either by air, land, or airdrop. The C-141 fleet is nearing the end of its operational service life, and is in the process of being retired, with a final retirement date of 2006.

- Range: The C-141B has unlimited range with in-flight refueling.
- Cargo: Maximum payload capacity is 68,725 lbs of cargo. It can carry most wheeled and tracked vehicles.
- Passengers: 155 paratroops, or 200 airlanded troops.

- Cost: Each C-141B cost $42.3m (in FY 98 constant dollars).
- Inventory: 74 on Active Duty, 28 in the Air National Guard, and 68 in the Air Force Reserve (www.af.mil/news/factsheets/).
- Total Lift Capability: 170 C-141s flying to maximum payload capacity could transport 5,841.6 tons/lift.

2. USAF Theater Aircraft Capability

Just as strategic airlift makes a vital contribution in the crucial role of power projection, theater airlift operations make a critical contribution to the application of military force within a theater or defined geographical area. Sometimes it is difficult to draw a clear distinction between what is a strategic and what is a theater level mission. For example, a long-range flight that ends in a tactical airdrop could have strategic implications. Nevertheless, the ability of a theater airlifter to enhance a state's overall military potential and posture is widely recognized. To accomplish this role, USAF relies on the C-130.

a. C-130 Hercules

The C-130, in all of its many variants, is the Air Force's core theater airlift aircraft. Its primary mission is to rapidly transport and deliver personnel and cargo via airland or airdrop operations within a theater of operations.

- Range: Between 1,597 nautical miles to 2,517 nautical miles, dependent upon variant.
- Cargo: The maximum payload will vary between models, but is between 43,550 lbs. - 46,812 lbs. The C-130 can accommodate a wide variety of oversized cargo, including everything from utility helicopters and wheeled armored vehicles to palletized cargo and personnel.
- Passengers: The C-130A/B/E/H/versions can carry 64 paratroopers or airland 92 troops. The newer C-130J/J30 model is capable of carrying 92 paratroopers and airlanding 128 combat troops.
- Cost: The unit cost will again vary between airframes, ranging from $11.9m for the C-130E to $48.5m for the C-130J (in FY98 constant dollars).
- Inventory: 186 aircraft in the Active force, 217 in the Air National Guard, and 107 in the Air Force Reserve (www.af.mil/news/factsheets/).
- Total Lift Capability: If each of the 510 C-130s flew to maximum payload capacity, between 11,118 – 11,937 tons could be flown per lift.

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APPENDIX B. USAF SUPPORT OF THE 82ND AIRBORNE DIVISION

A. USAF SUPPORT OF THE 82ND AIRBORNE DIVISION

While any number of USAF units are capable of supporting airborne operations, the following are the most commonly assigned the task of supporting the 82nd Airborne Division:

1. 43rd Wing

The 43rd is specifically designed to partner with the 82nd Airborne. It is composed of two fighter squadrons of A/OA-10A Warthogs and two airlift squadrons of C-130Es (the 2nd and the 41st, each with 18 aircraft). The 43rd can provide enough ready transport to get an airborne battalion task force into the air for a local mission (within 1500 miles of Ft. Bragg) (Clancy, 1997, p. 216). Using the C-130Es in an airborne operation support role decreases total lift capability by 842.4 tons/lift.

2. 436th Wing

'The 347th is primarily designed to work with the 3rd ID (M), with a secondary mission of supporting the 82nd Airborne Division. The 347th is composed of two fighter squadrons of F-16C Fighting Falcons, a fighter squadron of A/OA-10As, and an airlift squadron of C-130Es (the 52nd with 18 aircraft) (Clancy, 1997, p. 217). Those 18 C-130Es provide 421.2 tons of lift capacity.

3. 463rd Airlift Group

The 463rd has four full airlift squadrons (the 50th, 53rd, 61st, and 62nd), each equipped with C-130Hs. This provides enough aircraft to lift three entire brigades of troops, the entire 82nd Airborne Division, in one lift if the 43rd Wing provides support (Clancy, 1997, p. 217). Those four squadrons of C-130Hs are also capable of transporting 1,684.8 tons/lift when used in their cargo carrying capacity.

4. 437th Airlift Wing

The 437th is currently configured with three airlift squadrons of C-17s (the 14th, 15th, and 17th, with a total of 36 aircraft) (Clancy, 1997, p. 217). These three squadrons are capable of transporting 3,076.2 tons/lift, or over half of the C-17 fleets total capacity.

5. 305th Air Mobility Wing

The 305th is a four-squadron wing designed to support a major overseas deployment, providing both cargo carrying capacity and in-flight refueling services. The 305th has two airlift squadrons of C-141B Starlifters (the 6th and 13th, each with 16 aircraft), as well as two air refueling squadrons of KC-10A tankers. This provides enough refueling capacity, cargo stowage, and personnel space, when combined with the aircraft of the 437th, to do a full division drop on the other side of the world in a single lift (Clancy, 1997, p. 218). The thirty-two C-141Bs are capable of transporting 1,099.5 tons/lift in their standard cargo-carrying role.

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